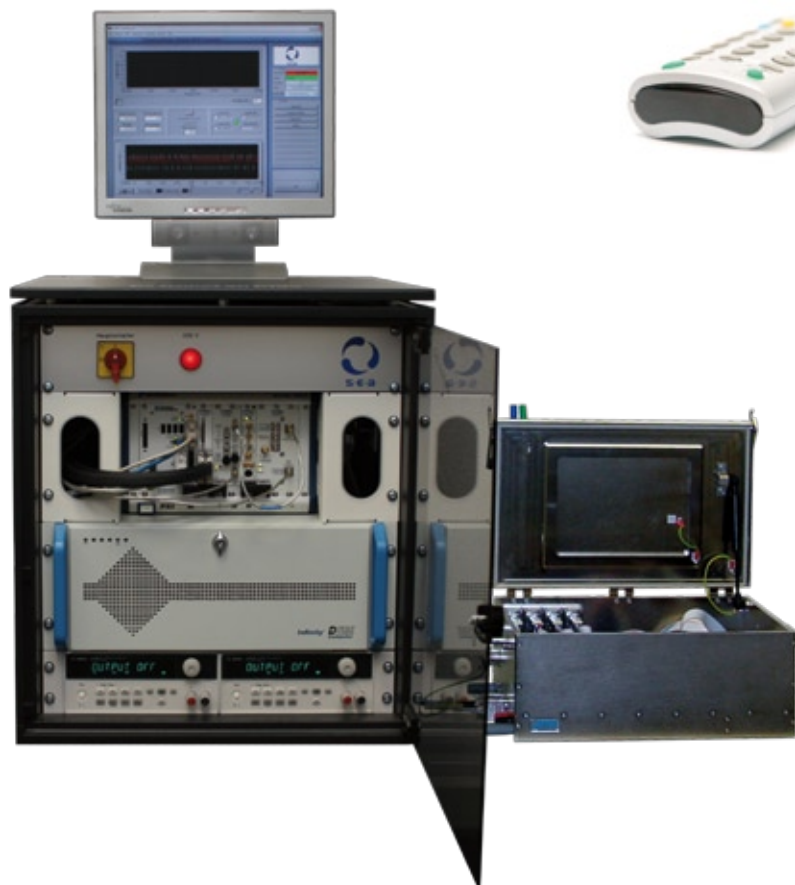


Test System for Components with Wireless Communication



Application Focus

With the component tester a complete system is available which allows testing of components for wireless communication. Typical applications are:

- validation
- qualification
- development

of hardware and software.

Hardware

Main Structure

- integrated 19" rack
- RF shield box for test object > 40 dB shielding
- real-time PXI-System
- industrial PC

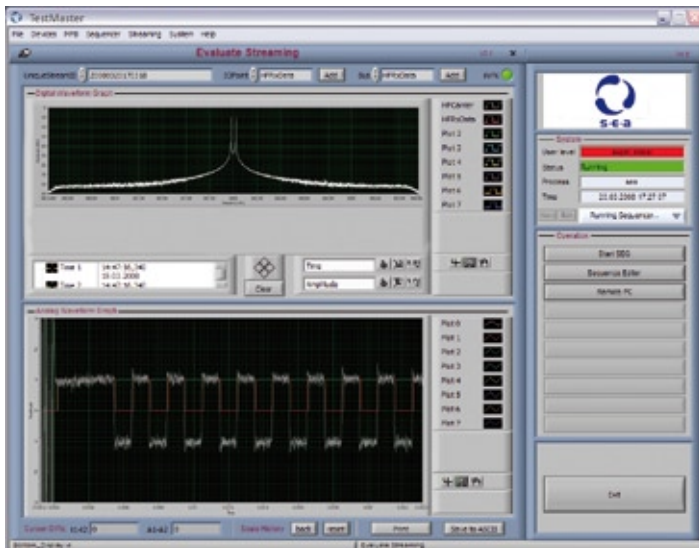
RF Properties

All modulations and line codes are defined in software and on demand expandable:

- 0 to 2,7 GHz Software Defined Radio (SDR)
- transmit/receive-mode
- implemented modulations
 - analog modulations FM, AM
 - digital modulations 2-FSK, 2-ASK/OOK, 2-/4-/8-PSK
- line codes: NRZ-L, NRZM, Manchester
- de-/modulation in real-time
- spectrum analysis

Interfaces

- 24 x digital out galvanically isolated
- 8 x digital in galvanically isolated
- programmable power supply
- RS-232, I2C, SPI to the unit under test
- CAN/LIN on request



Example of a software interface:
online display of communication signals

Software

The system bases on the *TESTMASTER*® Software.

The operation is done via a familiar Windows®-based interface in which the signals interactively controlled and displayed. The test modeling is done on the basis of *TESTMASTER*® sequences in XML format. The software is characterized by the following features:

Hardware Abstraction

- reusability of the test routine also with modified hardware
- replacement of the hardware without a large influence on defined tests
- extensibility
- configurability

Interactive access to the signals

User-definable test routines as sequences

Operation via various operation systems

- test operation based on Windows® user interface
- deterministic high precision of test execution with real-time
 - real-time: less than 10 ms
 - FPGA: less than 1 µs

Hardware-In-the-Loop (HIL)-Simulation in FPGA possible

Extensibility

- All the features and functional modules of the *TESTMASTER*® software platform can be integrated, e.g.
 - modules for image processing (display inspection)
 - control of bus simulation and support of diagnostic protocols
 - integration of self-defined LabVIEW™ software-code
- additional modulation and coding procedures
- control of almost any specific hardware



Tests

- action-/reaction tests
- response and time measurements
- protocol operation
- reaction to communication errors (like erroneous stimulation)

Integration Interfaces

- extensive configurability by logical signal names
- data interfaces for testing and test reports in XML
- support for multiple configurations
- test-bend integration via TCP/IP (z.B. XML-RPC) or discrete IO-Signals

Service and Support

Based on experiences in measuring and testing technology S.E.A. Datentechnik GmbH develops and manufactures customized test systems for electronics and other components. We provide any kind of customized systems for development and production use.

We support you with software and testing facilities from the idea to the finished product



S.E.A. Science & Engineering
Applications Datentechnik
GmbH

Mülheimer Str. 7
53840 Troisdorf

Phone: +49 - 22 41 - 127 37 - 0
Fax: +49 - 22 41 - 127 37 - 14

www.sea-gmbh.com
info@sea-gmbh.com