

# Multi I/O USB Bus Tester and Loader



## MultiComBox 3.0™

Multi-Protocol Avionics USB 3.0 tester

Mil-Std-1553B/1760

EBR-1553

PP194

H009

ARINC429 Tx/Rx

RS-485/422



*Compact, Robust, Reliable*

### MultiComBox Specifications

#### Supported Protocols

- MIL-STD-1553B/1760 Notice 2
- ARINC429
- H009, PP194 bus protocols
- RS-485 channels

#### Host Requirements

- USB 3.0 host interface
- X86 32/64 bit CPU
- OS: Windows / Linux

#### Power

- Uses USB's 5Vdc power up to 0.5 Amp

#### Operating Temperature

- -40 to +85 deg C

#### Software Support

- API Shared Library
- **COMposer™** - Windows GUI for simulation and monitoring of bus traffic
- Device Drivers:
  - Windows 32/64 bits
  - Linux
- Native Labview Integration Examples

#### Available Configurations

- 2 x 1553 Dual-Redundant channels
- PP194 / H009 protocols
- EBR-1553 (10Mbps 1553)
- 4 x RS-485 high-speed serial channels
- 2x 1553 + 4x ARINC 429

### Key Features and Benefits

#### • Supported Protocols:

- MIL-STD-1553B/1760 (up to 2 dual redundant channels)
- EBR-1553 (up to 4 channels over RS-485)
- H009
- PP194
- ARINC429 (Up to 4 channels)
- High Speed RS-485 (up to 4)

- BC, RT, multiRT (up to 31 RTs) simulation
- 1553 built-in Oscilloscope
- Synchronous Monitoring of entire bus traffic
- USB 2.0 interface to PC, Allows real time tester control
- Real-time protocol streaming simulation
- 1Mbit (64K Word) Internal memory
- USB bus powered
- Programmable status word and Mode Code
- Automatic Error injection and detection
- Message time tagging
- Engineering Units support
- **OS support:** Windows and Linux
- **Application Support:**
  - **COMposer™** SW for traffic generation and analysis
  - **Labview** including code and project samples
  - **ANSI C API libraries and code samples for integration into any test system**
- Fast 1553 Data Loader functionality
- 1553 Cyber Resilience Testing mode
- 1553 Bit Error Rate Testing and Analysis
- 1553 Circuit Fault detection and analysis

The TST1553USB provides full test, simulation and bus analysis (monitor) capability for multiple avionic databus protocols..

The unit is supplied with Windows/Linux device drivers and API as well as a Windows GUI, providing a user-friendly software tool for all 1553 frame and messages set-ups, data management and storage.

More information available at [www.sitaltech.com](http://www.sitaltech.com)  
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# COMposer Specifications

## Compatibility

- MIL-STD-1553B Notice 2
- H009, PP194
- ARINC 429
- EBR1553
- RS-485, up to 4.5Mbps, 8 or 9 bits with Parity

## PC Requirements

### CPU

- Intel® Pentium 4 and up
- AMD®

### RAM

Minimal Virtual Memory of 8065MB.

## Operating Systems

- Windows XP
- Windows 7
- Windows 8/8.1
- Windows 10

## Ordering Information

- TST1553USB-2-4  
2 x 1553 & 4 x RS-485
- TST485USB-4  
4 x RS-485
- TST194ADD  
PP194 Protocol Support
- TSTH009ADD  
H009 Protocol Support
- TSTEBRADD  
EBR-1553 Protocol Support
- TST1553SADD  
Oscilloscope support
- TST1553CADD  
Cyber attack emulation
- TST1553PADD  
Circuit Fault Detection

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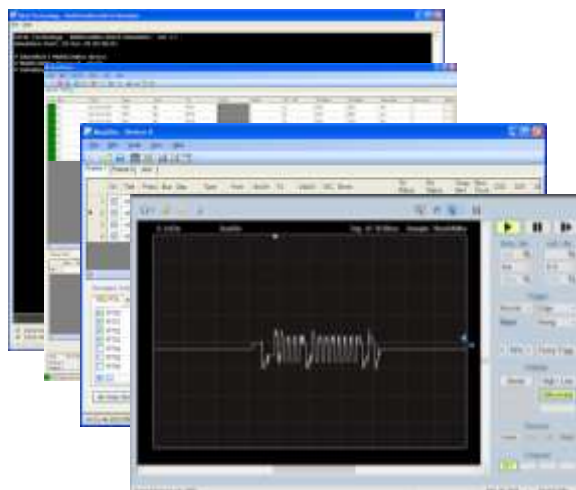
# COMposer™ - Test and Analysis Software

**COMposer™** is a user-friendly, intuitive and powerful software application for traffic generation, monitoring and analysis of Mil-Std-1553 and ARINC 429 on both data and physical circuitry level.

Working in conjunction with MultiComBox™ and Grip2.0, the **COMposer™** can monitor messages, frames and errors and analyze the status of each unit and frame on the bus, emulate cyber attacks and monitor circuit failures. It provides triggers and filters for monitoring and displaying recorded data.

Recorded frames can also be exported as XML, CSV and other file formats for future use or for interacting with other programs.

**COMposer™** can manage and simulate all traffic on the bus. It can handle a large number of Mil-Std-1553 frames and ARINC429 channels, which can be composed and edited by the user, recorded from the bus or imported from XML files. In order to facilitate the test, **COMposer™** can simulate multiple 1553 RTs, thus enabling the user to test the full Interconnect Control Document (ICD) without having to physically connect all LRUs. The user can easily select which units are to be simulated and which units are real.



## COMposer Key Features and Benefits:

- Easily Create messages and frames
- Simulate Bus Controller and up to 31 Remote Terminals
- Programmable error injection: Parity, Bi Phase, Sync and Zero Crossing
- Define the amount and rate of the frames to be transmitted
- Monitor and record in real-time, all bus activity or selected messages
- Support for Engineering Units
- Trigger recording or search replay files using complex expressions
- Export recorded files raw data values to XML or CSV format
- Replay recorded data or segments of recorded data for purposes of analyzing complex patterns of data, time, alarms and errors
- Display raw data sequentially or selectively in hex, decimal, binary and octal
- Translate raw data into engineering units by specifying scale or offset or by writing your own DLL based functions
- Track error messages
- Use text scripts for running pre-defined tests
- Create your own user application using Sital's DLL API functions

## About Sital

Sital is a world leader in the design and manufacture of high-reliability connectivity solutions (FPGA IP cores; Transceivers; Transformers; software; I/O boards) for aerospace, defense, space, and industrial applications. With a focus on quality, innovation, delivery, and support, Sital has served these industries as a trusted resource for more than 20 years providing proven solutions that are optimized for efficiency, reliability, safety, security and performance. Sital Technology is headquartered in Kfar Saba, Israel and has manufacturing operations in northern Israel. For more information, visit: [sitaltech.com](http://sitaltech.com)

