

MIL-STD-1553 VME Board (PRELIMINARY)

V-Orchestra™

Four / Eight x 1553 channels VME board
For RT, BC and Monitor applications

Compact, Robust, Reliable
MIL-STD-Products

Specifications:

Compatibility

- MIL-STD-1553B Notice 2.
- DDC® Enhanced MiniACE® software drivers.
- 6U, 160mm 4T Euro Standard VME 64x.
- D16, A24 data and address.

Environmental

- Industrial grade: -40°C to +85°C.
- 5 to 90% relative humidity (non-condensing).
- Conductively cooled.

Power:

- 3.3 and 5 VDC, 20W while all eight channels transmitting at same time.

Available Configurations

- 4 x Dual Redundant Mil-Std-1553B channels with 64K word RAM per channel.
- 8 x Single Mil-Std-1553B channels, with 32K Word RAM per channel.

Provided Software

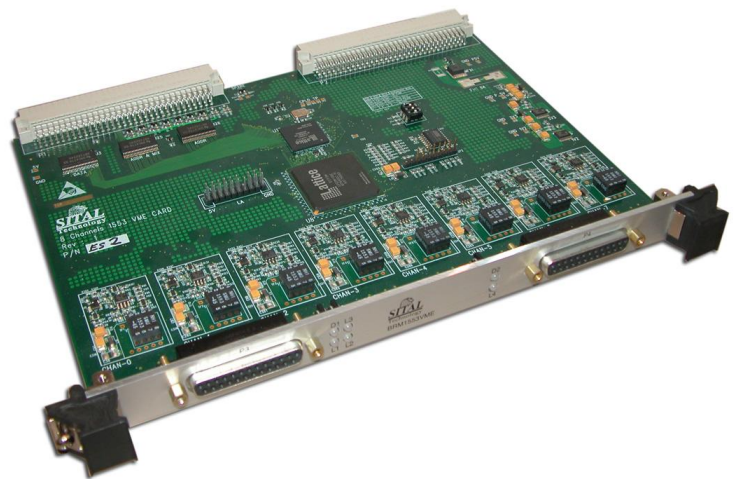
- API - High-level libraries with source code included - Operating systems supported: Windows XP, 2000, 2003, Linux, QNX and other operating systems.
- GUI – Luthier™ for 1553 bus simulation and analysis.

More 1553 products from Sital:

- MIL-STD-1553 IP Cores for FPGAs.
- MIL-STD-1553 Discrete Components Transceiver
- Mil-Std-1553 Testers
- 2 channels 1553, PCI board
- "Luthier" – 1553 Com Builder for evaluating and testing IP cores and components

Key Features and Benefits

- MIL-STD-1553B Notice 2 compliant terminals.
- Software compatible to DDC® Enhanced MiniACE® architecture.
- Can be configured as 8 x single channel or 4 x dual-redundant.
- 32K or 64K Word RAM per channel.
- VME Bus interface.
- Provided with software API for Windows, Linux, QNX and Windows GUI for easy operation.
- Low power consumption.
- Bootable RT option required for MIL-STD-1760.
- Simultaneous RT/MT Mode.



V-Orchestra™ is a four or eight channels Mil-Std-1553B board, which includes Bus Controller (BC), Remote Terminal (RT) and Monitor (MT) in each channel. The board can be configured to operate either as eight single channels or four dual-redundant channels.

V-Orchestra™ channels are software compatible to DDC® Enhanced MiniACE® components and architecture, with 64K word of internal RAM (when 4 channels) or 32K word of internal RAM (when 8 channels).

V-Orchestra™ is provided with software drivers for Windows, Linux and QNX, along with high-level API, which ease application development.

Sital's Luthier™ program for 1553 bus simulation and analysis is also provided. This software includes an advanced GUI (Graphical User Interface) for controlling the board, generating 1553 traffic, monitoring and emulating a real bus environment.

More information available at www.sitaltech.com

Email: info@sitaltech.com

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V-Orchestra™ - 4 / 8 channels Mil-Std-1553 VME Board

Deliverables

V-Orchestra™ Boards

- **PN: BRD1553VME-8:**
 - 8 x Mil-Std-1553B single channels.
 - 32K word RAM per channel.
- **PN: BRD1553VME-4:**
 - 4 x Mil-Std-1553B dual-redundant channels.
 - 64K word RAM per channel.
- Special configurations can be made for customers. Please contact Sital.

Connections

- 2 x 25 pins D-Type
- 2 x DB25 to CJ70 (Optional)

Software

- Software **Drivers and API** for Windows, Linux, QNX or Source Code can be provided for other RTOS.
- "Luthier" Com Builder, Software for 1553 Scenario definition and test.

Warranty, Support

- 3 years limited hardware warranty.
- 1 year technical support, including free software upgrades.

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V-Orchestra™ Functionality

The module is designed as a general purpose VME bus based module with 8 or 4 channels of Mil-Std-1553 communication channels.

Two options are available:

- Eight independent channels, individually programmable as RT, BC or Monitor with individual transceiver and physical media for each 1553 node, with 32K words RAM per channel, or
- Four independent channels with dual redundant transceivers and transformers, individually programmable as RT, BC or Monitor, with 64K words RAM per channel.

The board supports five (5) programmable interrupt sources (IRQ3- IRQ 7 of VME bus). Memory Base Address is settable through strapping options on the VME P2 connector, or at the P3 and P4 DB25 connectors.

LED Indications for Device healthiness and data exchange via communication channel are available.

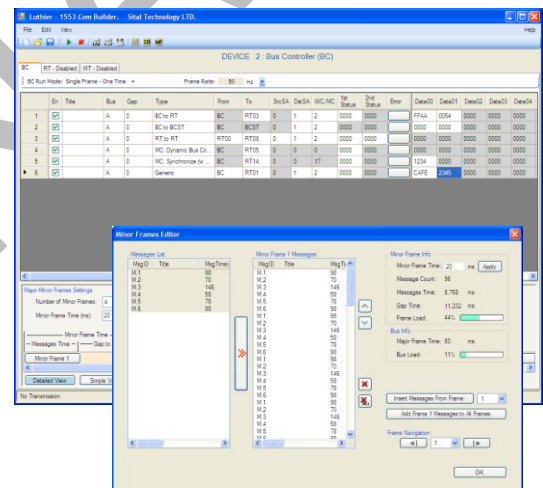
Provided Software Drivers, API

All Sital boards are provided with drivers for Windows, Linux and a high level API, which is provided as source code.

Luthier™

Luthier™ software is a GUI for Windows, which enables testing and verifying basic operation of the board and 1553 connections.

It enables the user to configure the channels as BC, RT or Monitor, define 1553 messages and frames, monitor the traffic on the bus and validate the correct operation of the board.



This easy-to-operate program also provides information about energy reflections on the 1553 bus, which are caused by bad connections or lack of terminations.

Flexible Configuration

V-Orchestra™ boards are based on FPGA, and Sital's proven 1553 IP cores and transceivers. This combination provides flexibility in configuration, modes of operation and features. Users can request different configurations such as combination of single and dual-redundancy channels, data transfer from one channel to another (1553 repeater functionality), and even support for other protocols such as H009 and PP194. Please contact Sital for details.

About Sital Technology

Founded in 1993, Sital Technology is a leading provider of IP cores, test units and products for Mil-Std-1553.

SITAL Technology's key quality resource is its creative, talented and professional staff. Our engineers are veterans of the Israeli Air Force, who served in the technical units of the F-16 avionics systems. They gained knowledge and experience with the MIL-STD-1553 standard from the bottom up, both as design engineers for MIL-STD-1553 components and as technicians working on the aircrafts.

Among our many customers you can find NASA, Honeywell, Israeli Aircraft Industries (IAI), Rafael, Elbit, Astronautics, Tadiran, the Israeli Ministry of Defense, Elta, BAE Systems, RADA and many others.