

VME64X products

CAEN Short Form Catalog 2007

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VX1190A - VX1190B 128/64 Channel Multihit TDC

Overview

The board is a 1-unit wide VME64X 6U module that houses 128 (VX1190A) or 64 (VX1190B) independent Multi-Hit/Multi-Event Time to Digital Conversion channels. The unit features High Performance TDC chips, developed by CERN. LSB can be set at 100 ps (19 bit resolution, 52 μ s FSR), 200 ps (19 bit, 104 μ s FSR) or 800 ps (17 bit, 104 μ s FSR). The channels can be enabled for the detection of hits rising/falling edges or for their width measurement (both the edges' timing, and the hit width can be measured with the selected resolution). For each channel there is a digital adjustment for the zero-ing of any offsets. The data acquisition can be programmed in "EVENTS" ("TRIGGER MATCHING MODE", with a programmable time window) or in "CONTINUOUS STORAGE MODE". Both ECL and LVDS input signals are supported.

The VME interface allows the module to work in A24 and A32 addressing modes. The board houses a 32 k x 32 bit deep Output Buffer, that can be readout via VME in a completely independent way from the acquisition itself. The internal registers are available in D16 mode only, while the Output Buffer is accessible in D32, BLT32 or MBLT64. The module supports also the Chained Block Transfer mechanism and the Multicast commands. The board has a special circuitry that allows it to be removed from and inserted in a powered crate without switching the crate off.



Highlights

- > 3 programmable ranges: 100 ps LSB (19 bit resolution), 200 ps LSB (19 bit) and 800 ps LSB (17 bit)
- > ECL/LVDS inputs automatically detected
- > 5 ns Double Hit Resolution
- > Leading and Trailing Edge detection
- > Trigger Matching and Continuous Storage acquisition modes
- > 32 k x 32 bit output buffer
- > BLT32/MBLT64/CBLT32/CBLT64 cycles supported
- > Multicast commands
- > Geographical address supported
- > Live insertion
- > VME64X Backplane required

Ordering options

Code	Description
WVX1190AEXAA	VX1190A - 128 Ch Multievent Multihit TDC 100-200-800 psec ECL/LVDS
WVX1190BEXAA	VX1190B - 64 Ch Multievent Multihit TDC 100-200-800 psec ECL/LVDS
WA967XAAAAAA	A967 - 32 Channel Cable Adapter (1x32 to 2x16) for V767, V862, V1190, VX1190, V1495

VX1290A - VX1290N 32/16 Channel Multihit TDC

Overview

The Mod. VX1290A is a 1-unit wide VME64X 6U module that houses 32 independent Multi-Hit/Multi-Event Time to Digital Conversion channels. The unit houses 4 High Performance TDC chips, developed by CERN. LSB is 25 ps (21 bit resolution, 52 μ s FSR). The module accepts both ECL and LVDS inputs.

The Mod. VX1290N houses 16 independent Multi-Hit/Multi-Event Time to Digital Conversion channels. It houses 2 High Performance TDC chips and shares most of its features with the VX1290A. The module accepts NIM inputs.

The channels can be enabled for the detection of hits rising/falling edges or for their width measurement. For each channel there is a digital adjustment for the zero-ing of any offsets. The data acquisition can be programmed in "EVENTS" ("TRIGGER MATCHING MODE", with a programmable time window) or in "CONTINUOUS STORAGE MODE". The VME interface allows the module to work in A24 and A32 addressing modes. The board houses a 32 k x 32 bit deep Output Buffer, that can be readout via VME in a completely independent way from the acquisition itself. The internal registers are available in D16 mode only, while the Output Buffer is accessible in D32, BLT32 or MBLT64. The module supports also the Chained Block Transfer mechanism and the Multicast commands.

The board has a special circuitry that allows it to be removed from and inserted in a powered crate without switching the crate off.



Highlights

- > 25 ps LSB
- > 21 bit resolution
- > 52 μ s full scale range
- > 5 ns Double Hit Resolution
- > Leading and Trailing Edge detection
- > Trigger Matching and Continuous Storage acquisition modes
- > 32 k x 32 bit output buffer
- > BLT32/MBLT64/CBLT32/CBLT64 cycles supported
- > Multicast commands
- > Geographical address supported
- > Live Insertion
- > VME64X Backplane required

Ordering options

Code	Version	Description
WVX1290AEXAA	VX1290A	32 Ch Multievent Multihit TDC 25 psec ECL/LVDS
WVX1290BNXAA	VX1290N	16 Ch Multievent Multihit TDC 25 psec NIM

VX1718 VME-USB2.0 Bridge

Overview

The Mod. VX1718 is a 1-unit wide 6U VME64X master module which can be operated from the USB port of a standard PC; the board can perform all the cycles foreseen by the VME64 (except those intended for 3U boards). The board can operate as VME System Controller (normally when plugged in the slot 1) acting as Bus Arbiter in Multimaster systems.

The VME bus activity can be monitored in detail, both locally (through a LED display) and remotely. The front panel includes also 5 TTL/NIM programmable outputs on LEMO 00 connectors (default assignment is: DS0/1, AS, DTACK, BERR and LOCATION MONITOR) and two programmable TTL/NIM inputs (on LEMO 00 connectors). The I/Os can be programmed via USB in order to implement functions like Timer, Counter, Pulse generator, I/O register, etc.

The VX1718 – PC interface is USB 2.0 compliant; previous issues are also supported. USB data transfer takes place through the High Speed Bulk Transaction protocol; the sustained data rate on the USB is up to 30 MByte/s in BLT Read cycles. Thanks to the 128KB memory buffer, the activity on the VME bus is not slowed down by the transfer rate on the USB port.

The Module is provided with drivers which support the use with the most common PC platforms (Windows 98/2000/XP, Linux); libraries and useful example programs in C/C++, Visual Basic and LabView are provided as well. Future firmware upgrade is possible via USB.



Highlights

- No boot required, ready at power ON
- Up to 30 MByte/s sustained data transfer rate
- VME Master (arbiter or requester)
- VME Slave (register and test RAM access)
- Cycles: R/W, RMW, BLT, MBLT, IACK, ADO, ADOH
- Addressing: A16, A24, A32, CR/CSR, LCK
- Data width: D8, D16, D32, D64
- System Controller capabilities
- Interrupt handler
- Front panel Dataway Display (available also from PC and VME)
- 5 outputs and 2 inputs, NIM or TTL, fully programmable
- VME64X Backplane required

Ordering options

Code	Description
WVX1718XAAAA	VX1718 - VME-USB 2.0 Bridge

VX2718 VME-PCI Optical Link Bridge

Overview

The Mod. VX2718 is a 1-unit wide 6U VME64X master module, which can be controlled by a standard PC equipped with the PCI controller card CAEN Mod. A2818.

The connection between the VX2718 and the A2818 takes place through an optical fiber cable (AY2705, AY2720, AI2705, AI2720). Multi crate sessions can be easily performed, since up to eight daisy chained (via optical fiber cables) VX2718 can be controlled by one A2818, thus building a CONet (Chainable Optical Network).

The VX2718 can perform all the cycles foreseen by the VME64 (except those intended for 3U boards). The board can operate as VME System Controller (normally when plugged in the slot 1) acting as Bus Arbiter in Multimaster systems.

The VME bus activity can be monitored in detail, both locally (through a LED display) and remotely. The front panel includes also 5 TTL/NIM programmable outputs on LEMO 00 connectors (default assignment is: DS0/1, AS, DTACK, BERR and LOCATION MONITOR) and two programmable TTL/NIM inputs (on LEMO 00 connectors). The I/Os can be programmed in order to implement functions like Timer, Counter, Pulse generator, I/O register, etc.

The sustained data transfer rate is up to 70 MByte/s. Thanks to the 128KB memory buffer, the activity on the VME bus is not slowed down by the transfer rate on the CONet when several VX2718s share the same network.

The Module is provided with drivers which support the use with the most common PC platforms (Windows 98/2000/XP, Linux); libraries and useful example programs in C/C++, Visual Basic and LabView are provided as well. Future firmware upgrade is possible via PCI.



Highlights

- No boot required, ready at power ON
- Daisy chain capability
- PCI 32bit / 33MHz
- Up to 70 MByte/s sustained data transfer rate
- VME Master (arbiter or requester)
- VME Slave (register and test RAM access)
- Cycles: R/W, RMW, BLT, MBLT, IACK, ADO, ADOH
- Addressing: A16, A24, A32, CR/CSR, LCK
- Data width: D8, D16, D32, D64
- System Controller capabilities
- Interrupt handler
- Front panel Dataway Display (available also from PC and VME)
- 5 outputs and 2 inputs, NIM or TTL, fully programmable
- VME64X Backplane required

Ordering options

Code	Description
WA2818XAAAAA	A2818 - PCI Optical Link
WK2718XAAAAA	VX2718KIT - VME-PCI Bridge (VX2718) + PCI Optical Link (A2818) + Optical Fibre 5m duplex (AY2705)
WVX2718XAAAA	VX2718 - VME-PCI Bridge
WAY2705XAAAA	AY2705 - Optical Fibre 5 m. duplex
WAY2720XAAAA	AY2720 - Optical Fibre 20 m. duplex
WAI2705XAAAA	AI2705 - Optical Fibre 5 m. simplex
WAI2720XAAAA	AI2720 - Optical Fibre 20 m. simplex