AVM16 - 16 channel VME 12 bit x 160 MHz ADC

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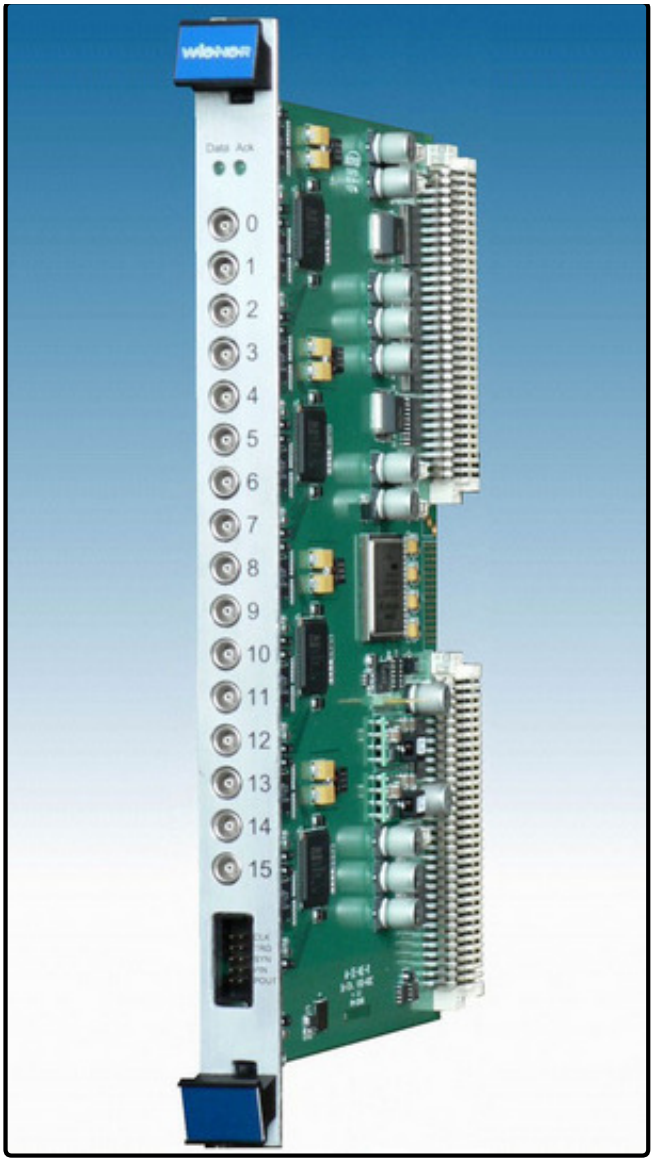

AVM16 - 16 channel VME 12 bit x 160 MHz ADC

AVM16 (VME version) and AVX16 (VXS version) are 16 channel 12 bit flash ADC's equipped with 5 FPGAs for data preprocessing.

The feature extraction FPGA modules allow to compute pulse integrals (also for overlapping pulses), measure and subtract pedestals, extrapolate pulse arrival times with 1.5 ns resolution, extract maxima and minima of the signal and

disentangle pile up events in real time

Main features

- 16 channel 12bit/160MHz digitizer in VME,
- LEMO or flat cable input, +/- 1V default input voltage, baseline shift
- 10Hz - 100 MHz band width for DC coupled version, 200kHz – user limited band width for AC coupled version
- Event buffering, 4 buffers of 1024 samples (6.4us) for 16 channels
- VME Addressing modes: A24/D16, A24/D32, A32/D16, A32/D32, AD64, BLT, MBLT
- Internal or external clock
- Internal or external trigger

- 16 channel 12bit/160MHz digitizer in VME, works on VME/VME64, VME430 (except AVX16), VME64x and VXS crates
- LEMO or flat cable input, +/- 1V default input voltage range, baseline shift
- 10Hz - 100 MHz band width for DC coupled version, 200kHz – user limited band width for AC coupled version
- Buffer length: 4 buffers of 1024 samples (6.4us) for 16 channels
- VME Addressing modes: A24/D16, A24/D32, A32/D16, A32/D32, AD64, BLT, MBLT
- Clock: 160 MHz (internal) or front panel connector (external)
- Internal or external trigger
- Feature extraction: Amplitude, Integral (charge), Time of arrival, Multiple pulses (times, minima, maxima, partial charges), Zero-suppression
- Thresholds : Amplitude threshold common for all channels, Integral threshold individual for every channel
- Readout mode
  - Limited verbosity (only charge and time for the main pulse)
  - Extended verbosity (full set of extracted parameters)
  - Raw data mode (plus extracted parameters)

Item	Description
AVM16-Base	VME 16 channel 160MHz 12bit FADC with feature extraction, front panel without screening
AVM16	VME 16 channel 160MHz 12bit FADC with feature extraction
AVX16	VXS 16 channel 160MHz 12bit FADC with feature extraction

Technical specifications	
Bus standards	VME/VME64, VME64x, VXS (VXS version)
No. of channels	16
Input	standard LEMO
Sampling speed	160 MHz
Input voltage range	+/- 1.000 V
Bandwidth	10 Hz..100 MHz (DC, full bandwidth option), 200 kHz..user limited (AC, limited bandwidth)
Resolution	12 bit or +/- 11 bit. Baseline setup.

Noise	0.8 LSB (RMS)
Buffer length	1024 samples (6.4 us), 4 buffers for 16 channe1s
Synchronization	External front panel connector ECL/PECL/LVDS, dedicated VME pins
Clock	Internal clock 160 MHz, external front panel connector ECL/PECL/LVDS, dedicated VME pins
Trigger options	External front panel connector ECL/PECL/LVDS, internal self-triggering mode
Integration time window	Relative to trigger time or to pulse arrival time
Time resolution	1.6 ns (interpolated signal t0)
Self-Test	Internal pulse generator with programmable amplitude
Configuration	Remote via VME, local via JTAG connector
Addressing space	256 locations (0..FF)
Base address	00FF8000-00FFBF00 (32 locations)
Addressing mode	A24/D16, A24/D32, A32/D16, A32/D32, AD64, BLT, MBLT
Power requirements	VME/VME64 +5V/ 4A, VME64x/VXS +5V / 2A, +3.3V/2A

Product Data Sheet

AVM16 - 16 channel VME 12 bit x 160 MHz ADC:	Print Product Data Sheet

Documentation

Manual and Tech-Notes :	AVM16
Introduction:	WIENER_VME_VXI_VXS_introduction