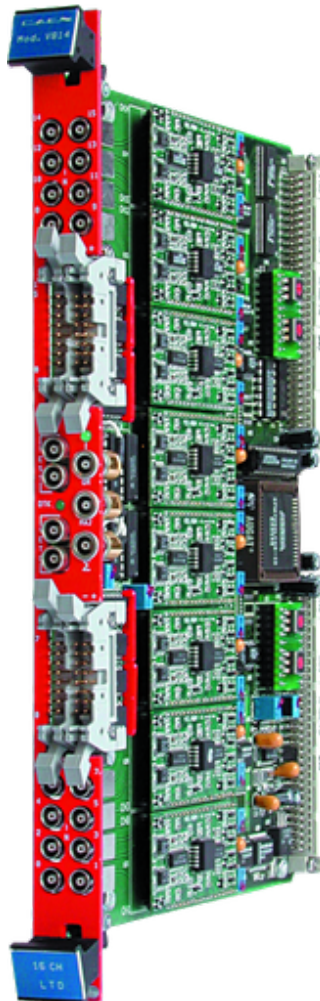
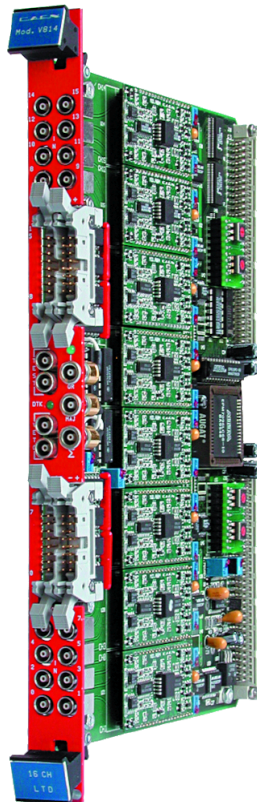


# V814

## 16 Channel Low Threshold Discriminator



## Features



- Thresholds individually programmable via VME
- ECL outputs with fan-out of two
- Non updating operation
- Programmable output width
- Mask register for individual channel enable/disable
- Global VETO and TEST inputs
- OR, CURRENT SUM and MAJORITY outputs
- High sensitivity with small signals
- Negative or Positive input version available
- Libraries (C and LabView) and Software tools for Windows and Linux

## Description

The CAEN **Mod. V814** is a **1-unit wide VME module housing a 16 channel low threshold discriminator**. The module accepts 16 negative (positive on request) inputs and produces 16 differential ECL outputs with a fan-out of two on four front panel flat cable connectors. Maximum input frequency is **60 MHz**. The pulse forming stage of the discriminator produces an output pulse whose width is adjustable in a range from 6 to 95 ns via VME. The discriminator thresholds are individually settable in a range from -1 mV to -255 mV (1 mV step), via VME through an 8-bit DAC; a positive input version (Model V814PB), with the thresholds settable in the 1 mV to 255 mV range, is also available. Each channel can be turned on or off via VME by using a mask register. A Current Sum output generates a current proportional to the input multiplicity, i. e. to the number of channels over threshold, at a rate of -1.0 mA per hit (-50 mV per hit into a 50  $\Omega$  load).

A MAJORITY output connector provides a NIM signal if the number of input channels over threshold exceeds the MAJORITY programmed value. Several V814 boards can be connected in a daisy chain via the Current Sum output: in this case, by switching the majority logic to External, it is possible to obtain a Majority signal when the number of active channels in the chained modules exceeds a global Majority level. The logic OR of discriminator outputs is available on a front panel NIM signal.

## Technical Specifications

### Packaging

6U-high, 1U-wide VME unit

The Mod. V814/V814 P is provided with P1, P2 and PAUX connectors.  
The Mod. V814 B/V814 PB is provided with P1, P2 connectors (NO PAUX).

### Inputs

16 inputs (negative polarity, 50  $\Omega$  impedance, DC coupling)

### Input voltage range

V814/V814B: -1 mV to -400 mV; V814 P/PB: 1 mV to 400 mV

### Max input frequency

60 MHz (8 ns output pulse width)

### Double Pulse Resolution

16 ns (8 ns output pulse width)

### Threshold range

V814/V814B: -1  $\div$  -255 mV; V814 P/PB: 1  $\div$  255 mV (1 mV step)

### Outputs

16 outputs with a fan-out of two (ECL, 110  $\Omega$  impedance)

### Output width

Programmable from  $6 \pm 1$  ns to  $95 \pm 7$  ns

### Input/output delay

$10.5 \pm 1.5$  ns

### Interchannel Insulation

54 dB for 2.5 ns rise time input signals

### Control inputs

- NIM logic signals, high impedance:
- VETO: allows vetoing of all channels simultaneously
- TEST: triggers all the enabled channels at once

### Control outputs

- MAJORITY: standard NIM logic signal, 50  $\Omega$  impedance; it indicates if the number of input channels over threshold exceeds the MAJORITY level programmed via VME
- OR: standard NIM signal, 50  $\Omega$  impedance; logic OR of outputs
- $\Sigma$ : current proportional to input multiplicity ( $-1$  mA  $\pm$  20% per hit), high impedance

## Display

DTACK: green LED; lights up at each VME access

OR: green LED; it lights up if at least one output signal is present

## Power requirements

Power Supply	V814B/V814P	V814B/V814 PB (no PAUX)
+ 12 V	100 mA	100 mA
- 12 V	50 mA	50 mA
+ 5 V	800 mA	5.1 A
- 5 V	3.3 A	-

## Ordering Options

Code	Description	
WV814XBAAAA	V814B - 16 Channel Low Threshold Discriminator (NoJAUX)	RoHS
WV814XPAAAA	V814PB - 16 Channel Low Threshold Discriminator Positive Inputs No JAUX	RoHS

## Accessories

### A954



Cable assembly 2.54mm 34 pin female to two 2.54mm 16 pin female - 50 cm

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## Related Products

### VME8001



1U 2 Slot VME64 Mini Crate

### VME8004B



2U 4 Slot VME64 Mini Crate

### VME8010



7U 21 Slot VME64 Low Cost Crate

### V3718



VME to USB 2.0 / Optical Link Bridge

### NV8020A



7U CRATE VME/NIM 8 slot VME64 365W, 5 slot NIM 150W

## VME8008X



4U 8 Slot VME64X Mini Crate

## V4718



VME to USB 3.0/Ethernet/Optical Link Bridge

## VME8200



9U 21Slot VME64X Enhanced Crate series

## VME8011



7U 21 Slot VME64 Low Cost Crate

## VME8008B



4U 8 Slot VME64 Mini Crate

## VME8004X



2U 4 Slot VME64X Mini Crate

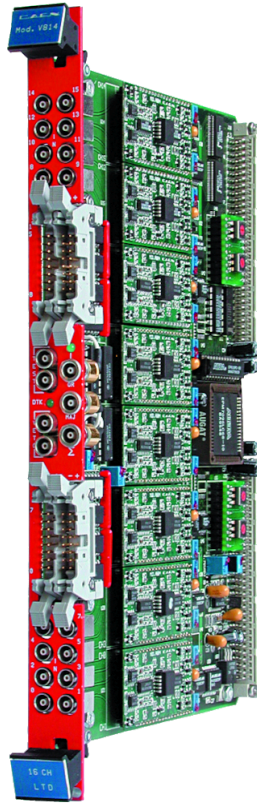
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## VME8100



8U 21 Slot VME64/64X Enhanced Crate Series

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