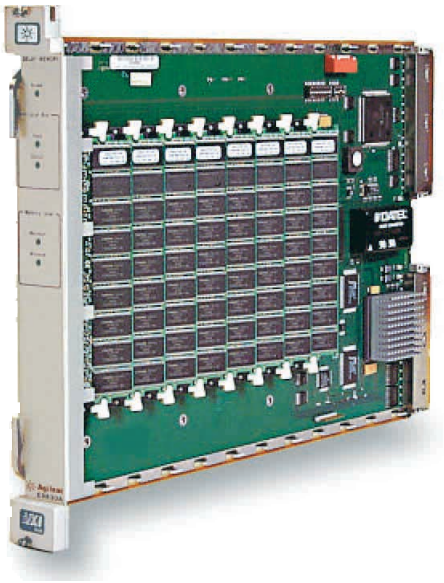
Agilent E9830A

Delay Memory Module

Product Overview



- **Eight SDRAM DIMM sockets allow 128 to 2048 MB of delay memory**
- **Simultaneous input and output data transfers at up to 53 MB/s (Agilent local bus)**
- **Delay mode allows delay time to be set in increments of 512 bytes**
- **Snapshot mode collects input data up to 2048 MB**
- **Register-based VXIbus module**
- **VXI*plug&play* compatible**

Successful COMINT missions depend on the highest productivity from system creators, systems and operators. Enhance your productivity by adding the Agilent E9830A Delay Memory module to a COMINT system. Delay memory lets you see signals from the beginning, ensuring first-bit or first-syllable copy of energy of interest. In systems that perform signal monitoring, use the E9830A to give your DSP algorithms the time they need to detect signals of interest hidden in a digital data stream.

The E9830A also saves time, literally. When a “rare event” signal appears, the module can take a snapshot that gets the entire event for detailed post processing. With the E9830A, you can go back in time to catch the most elusive signals – from the first bit.

Configure the E9830A Delay Memory module with up to 2048 MB of delay memory connected to the Agilent local bus. Move data from its source over the local bus to delay memory as fast as 53 MB/sec. Simultaneously, move data from delay memory to local bus at rates of up to 53 MB/sec.

Delay and Snapshot Modes

Whether your project requires a signals development system, direction finding system or data analysis system, success depends upon finding and saving the right information the first time. The E9830A helps by providing two modes of operation: delay and snapshot.

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In delay mode, the amount of delay can be set between 0 and 2048 MB in increments of 512 bytes. When you use the E9830A in conjunction with the E1437A sampling at 20.48 MSa/sec (or 40.96 MB/sec), you can set the delay from 0 to 50 seconds in 12.5 msec steps. As long as the delay memory is not full, the module transfers data from the input local bus to the delay memory.

Simultaneously, data is transferred from the FIFO memory to the output local bus whenever the amount of data held in delay memory exceeds the set delay amount.

In snapshot mode, configure the E9830A to capture up to 2048 MB of data. Transfer data from the input local bus to snapshot memory until it is full, or command the E9830A to stop before it is full. Then, transfer the captured data from the snapshot memory to the output local bus or read it from the VXIbus interface.

First-bit Capture with the Agilent E3238 Signals Development System

Enhance your productivity by adding the E9830A Delay Memory module to your E3238 Signals Development System. The E3238 software integrates the module for you, providing an easy-to-use graphical user interface as well as automatic controls. Delay memory lets you see signals from the beginning, ensuring first-bit or first-syllable copy of energy of interest. Catch and hold elusive signals in delay memory while your DSP algorithms determine if they are of interest. If so, the system can send selected signals, including first-bit or first-syllable, to downstream processing for closer inspection, demodulation and logging. The E3238 can achieve up to 50 seconds of delay time when it is configured with the E1437A digitizer. For additional delay, add more delay memory modules to your E3238 Signals Development System.

Decrease time to analysis by adding the E9830A Delay Memory module to your E3238 Signals Development System. When an unknown signal of interest appears, achieve instant signal snapshots for post-capture analysis and demodulation. Take snapshots at the click of a mouse, or after user-defined signal alarm criteria are met. Choose a selection of bandwidths up to 2 MHz for your snapshots, or command the E3238 to automatically determine the appropriate snapshot bandwidth of the detected signal of interest.

Segmentable Memory Output

Stay efficient by transferring only the data that you need. The E9830A can send all or a select portion of the recorded data over the VXIbus or Agilent local bus. Program the memory pointers to select the data of interest to be sent from the module.

Attain long delay times by configuring the E9830A with up to 2048 MB of memory installed in eight SDRAM DIMM slots. The module is designed to support larger memory sizes as they become available. With 2048 MB of memory, you can achieve up to 50 seconds of delay time when used with the 20 MSa/s E1437A. To increase the amount of memory configured in the module, simply plug-in additional SDRAM DIMMs. Multiple delay memory modules may be placed in adjacent slots to increase the amount of delay time in the system.

Use either Agilent local Bus or VXIbus Data Transfers

The E9830A can store and send data simultaneously, either over the VXIbus or over the fast Agilent local bus. Achieve up to 53 MBytes/s transfer speed over the local bus. Configure several Agilent instruments that use the local bus with the E9830A, including the E1430A and E1437A digitizers and the SCMVX008 and E9821A digital signal processors. If you use VXI input modules that do not have local bus support, data can be transferred to the E9830A over the VXIbus. Please note that data cannot be input or output to the device over both the VXIbus and the local bus at the same time.

Comprehensive Software Support

The delay memory module is a register-based VXI module that is VXI*plug&play* compatible. It is supported by a set of C example programs for use in HP-UX* or Microsoft Windows® operating systems. The module's command set provides a simple, straightforward interface for programming the module.

* HP-UX Release 10.20 and later and HP-UX Release 11.00 and later (in both 32- and 64-bit configurations) on all HP 9000 computers are Open Group UNIX 95 branded products.

Windows is a U.S. registered trademark of Microsoft Corporation.

Windows NT is a U.S. registered trademark of Microsoft Corporation.

Product Specifications

Memory size:	128 Mbytes
	1024 Mbytes option E9830A-010
	2048 Mbytes option E9830A-020
Memory type:	PC100 non-buffered ECC SDRAM DIMMs
Data transfer speed:	Local Bus (LBUS)—up to 53 MB/sec

General Specifications (VXI System Level Specifications)

VXI Standard Information		Conforms to VXI Rev. 1.4	
		C-size, single-slot with register-based programming	
		"Slave" data transfer bus functionality	
		A16, D16 capability	
		D32 capability for data transfer	
		Local bus capability	
Size (single-slot, C-size VXI module)			
	Dimensions	14 inches deep, 9.2 inches high, 1.2 inches wide	
	Weight	3 pounds	
Software Drivers			
	Driver Type	VXI*plug&play*	
	Supported Operating Systems	Windows® 95, Windows NT®, Windows 2000®, HP-UX 10.X	
Regulatory Compliance			
	Safety	Designed for compliance to CSA C22.2, No. 1010.1	
		Designed for compliance to EN61010	
	EMC	Complies with EN61326 for laboratory equipment (requires connector shields in the mainframe)	
Radiated Emissions		CISPR 11 :1990 Group 1, Class A (requires connector shields in the mainframe)	
Environmental			
	Operating Restrictions		
		Ambient Temperature	0° C to 55° C
		Humidity, Non-condensing	10% to 90% at 40° C
		Maximum Altitude	4600 m (15,000 ft), Above 2285m (7500 ft), derate operating temperature by –3.6° C per 1000 m (–1.1° C per 1000 ft)
	Storage & Transport Restrictions		
		Ambient Temperature	–40° C to 70° C
		Humidity, Non-condensing	max 95% RH at 65° C
		Maximum Altitude	4600 m (15,000 ft)
General Characteristics			
	VXI Power Requriements		

Range	DC Current (Amps)	Dynamic Current (Amps)
+5 V:	2.0	1.0
+12 V:	0	0
-12 V:	0	0
+24 V:	0	0
-24 V:	0	0
-5.2 V:	0.7	0.07
-2 V:	0.175	0.02

VXI Cooling Requirements		
	15° C rise	4.0 liters/second
		0.5 mm H_20

Warranty

This product is distributed, warranted, and supported by Agilent Technologies.

The E9830A comes with a 3-year warranty. During that period, the unit will either be replaced or repaired, at Agilent Technologies' option, and returned to the customer without charge.

Related Agilent Literature

E1437A 20 MSample/Second ADC with Filter and FIFO Product Overview
literature number 5965-6893E

E1437A 20 MSample/Second ADC with Filter and FIFO Technical Specifications
literature number 5965-9774E

E1438A/B 100 MSample/Second Digitizer with DSP and Memory Product Overview
literature number 5968-7348E

E1438A/B 100 MSample/Second Digitizer with DSP and Memory Technical Specifications
literature number 5968-8233E

E1439A/B VXI 70MHz IF ADC with Filters and Memory Product Overview
literature number 5980-1261E

E1439A/B VXI 70MHz IF ADC with Filters and Memory Technical Specifications literature number 5980-1260E

Test Systems and VXI Products Catalog
literature number 5980-0307E

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