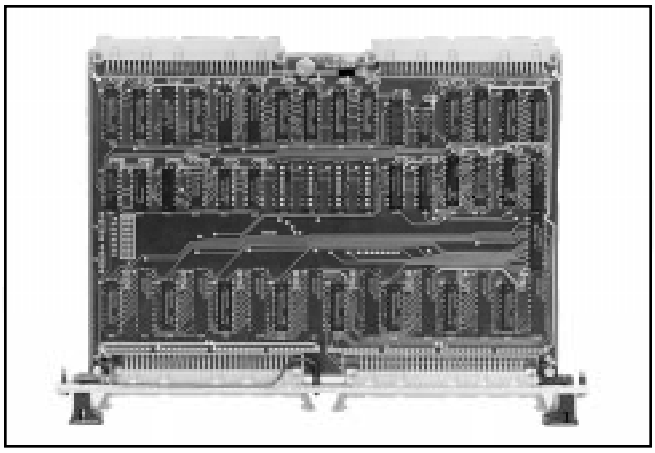
VMIVME-2510B
64-bit TTL Digital I/O with Built-in-Test

- The direction of each 8-bit port is individually programmable
- 64 mA sink capability
- Separate board address decoding for control and data registers
- Built-in-Test logic for fault detection and isolation
- Fail LED
- Compatible with VMIC's Intelligent I/O Controller product line
- High reliability DIN-type I/O connections
- 8-, 16-, 32-bit transfers
- Optional open-collector outputs



FUNCTIONAL CHARACTERISTICS

Compatibility: VMEbus specification compatible double-height form factor

I/O Connector Type: Dual 64-pin connector, DIN 41612

I/O Organization: Eight I/O ports; eight bits wide. Addressable to any address within short supervisory or short nonprivileged I/O map.

Addressing Scheme: Eight ports individually addressable on 8- or 16-bit boundaries. Address DIP switches provide unlimited short data I/O address map selection.

Built-in-Test: Output data may be read back in real-time or in an off-line mode. The off-line mode is enabled by executing a write to the Control and Status Register (CSR) to set the TEST MODE bits. With the TEST MODE enabled, all outputs are in TRI-STATE. Two TEST MODE bits are provided so that each connector I/O (32 bits) can be tested independently if necessary.

Fail LED: A Fail LED is provided that is illuminated at power up and system reset. It may be extinguished under program control upon a successful diagnostic execution.

I/O Circuit: Transceivers support high current sink (64 mA) outputs. These octal bus transceivers are SN74AS645 for the logic level TTL I/O option. The open-collector option uses SN74AS641 type transceivers. If the open-collector option is ordered, all 64 bits are output only.

Variations: This product may be purchased in the following variations:

Model No.	Description
2510	Original Design - one test mode bit
2510A	Two test mode bits (one per connector)
2510B	Recommended for new designs (two test mode bits)

Ordering Options

October 28, 1994 800-000103-000 C	A	B	C	–	D	E	F
VMIVME-2510B	–			0	–			

A = Input/Output Type and Data Polarity
1 = TTL Logic Level Inputs and Outputs, Positive True
2 = TTL Logic Level Inputs and Outputs, Negative True
3 = Open-Collector Outputs (No Inputs), Positive True *
4 = Open-Collector Outputs (No Inputs), Negative True *

B = Output Resistor
0 = No Resistors Installed
1 = 2.2 kΩ**

C =
0 = Not Used

Notes

* 10-pin SIP sockets are provided for user-installed pull-up resistors. Inputs are active once pull-up resistors are installed.
** Must select open-collector Input/Output.

Connector Data

Compatible Cable Connector	Panduit No. 120-964-435E
Strain Relief	Panduit No. 100-000-032
PC Board Header Connector	Panduit No. 120-964-033A

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
E-mail: info@vmic.com Web Address: www.vmic.com

PHYSICAL/ENVIRONMENTAL

Temperature Range: 0 to 55 °C, operating
-20 to 85 °C, storage

Relative Humidity Range: 20 to 80 percent, noncondensing

Cooling: Convection

Power Requirements: +5 V at 3.786 A (maximum)

POSITIVE/NEGATIVE TRUE ORDERING INFORMATION TTL I/O — This board may be ordered with positive or negative true I/O options. A positive true input option presents a high-level input voltage on each data line whose corresponding bit on the VMEbus is a logic *one*. A positive true output option presents a logic *one* to the Output Data Register (ODR) which presents a high-level output voltage on each data line. A negative true input option presents a high-level input voltage on each data line whose corresponding bit on the VMEbus is a logic *zero*. A negative true output option presents a logic *zero* to the Output Data Register which presents a high-level output voltage on each data line.

OPEN-COLLECTOR OUTPUT OPTION — A positive true output option presents a logic *one* to the ODR whose corresponding bit on the VMEbus is a logic *one*, which turns the output open-collector transistor ON, thereby supplying a ground to the load.

A negative true output option presents a logic *zero* to the ODR whose corresponding bit on the VMEbus is a logic *one*, which turns the open-collector output transistor OFF.

IIOC COMPATIBILITY — This product is compatible with VMIC's family of Intelligent I/O Controllers (IIOCs) which have applications in the data acquisition, process control, factory automation, and simulation and training markets. IIOC software support for this product is designed to support I/O as shown below:

CONNECTOR	
P3	**P4**
I	I
O	I
I	O
O	O

This concept allows the user to downline load the direction of I/O on each connector; therefore, individual port control is not supported by the IIOC. IIOC support is limited to the VMIVME-2510A or -2510B models. The IIOC is a multiprocessor controller that includes CPU(s), global memory(s), a wide variety of optional host computer interfaces and firmware that provides a total *turnkey* I/O solution. More information concerning this product may be obtained by requesting the Intelligent I/O Controller Instruction Manual, Document No. 500-009016-000.

TRADEMARKS

APPLICATION AND CONFIGURATION GUIDES — The following Application and Configuration Guides are available from VMIC to assist the user in the selection, specification, and implementation of systems based on VMIC's products:

Title	Document No.
Digital Input Board Application Guide	825-000000-000
Change-of-State Board Application Guide	825-000000-002
Digital I/O (with Built-in-Test) Product Line Description	825-000000-003
Synchro/Resolver (Built-in-Test) Subsystem Configuration Guide	825-000000-004
Analog I/O Products (with Built-in-Test) Configuration Guide	825-000000-005
Connector and I/O Cable Application Guide	825-000000-006

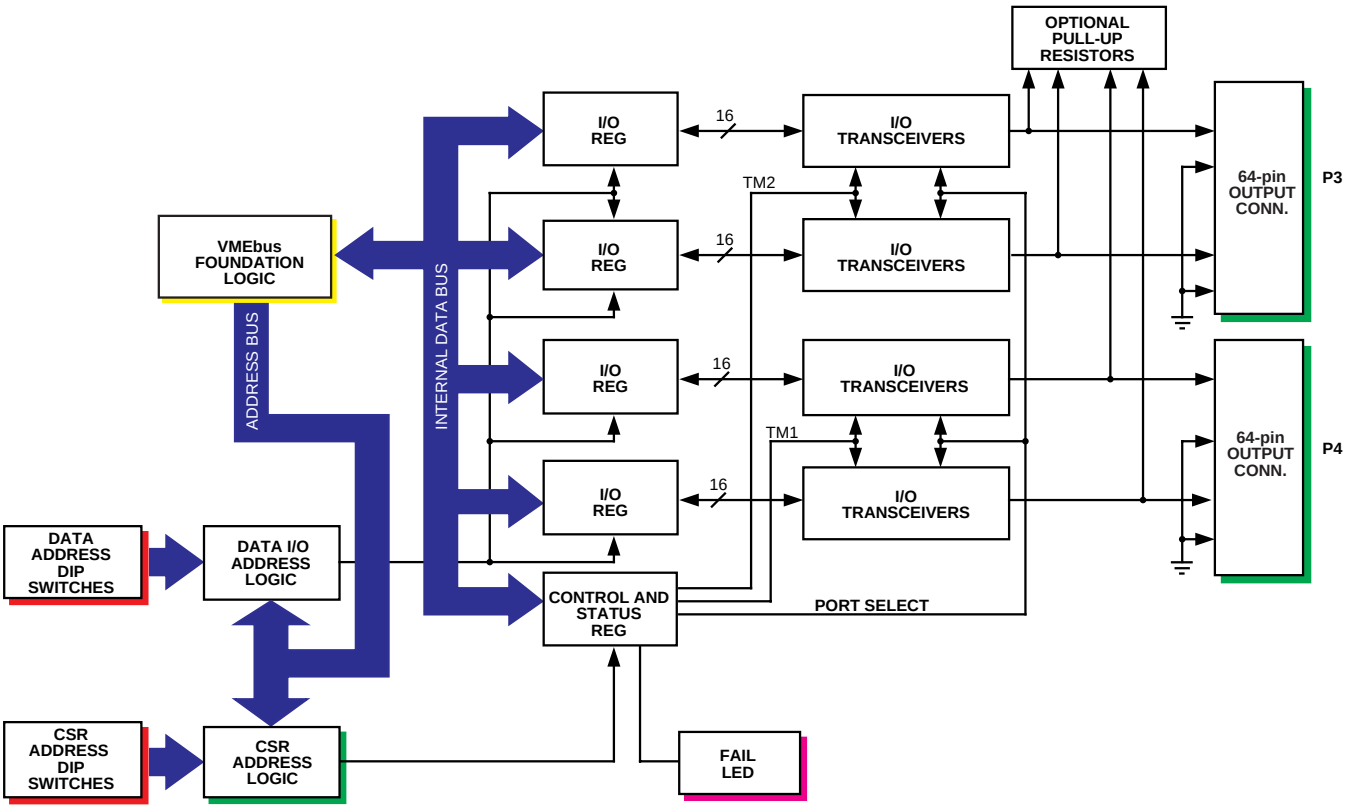


Figure 1. VMIVME-2510B Functional Block Diagram