VMIVME-103

3-SLOT VMEbus TABLE TOP ENCLOSURE

INSTRUCTION MANUAL

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RECORD OF REVISIONS

REVISION LETTER	DATE	PAGES INVOLVED	CHANGE NUMBER
A	02/11/93	Release	93-0024
B	04/28/93	Change Per ECO	93-0460

VMIC
SAFETY SUMMARY

THE FOLLOWING GENERAL SAFETY PRECAUTIONS MUST BE OBSERVED DURING ALL PHASES OF THIS OPERATION, SERVICE, AND REPAIR OF THIS PRODUCT. FAILURE TO COMPLY WITH THESE PRECAUTIONS OR WITH SPECIFIC WARNINGS ELSEWHERE IN THIS MANUAL VIOLATES SAFETY STANDARDS OF DESIGN, MANUFACTURE, AND INTENDED USE OF THE PRODUCT. VME MICROSYSTEMS INTERNATIONAL CORPORATION ASSUMES NO LIABILITY FOR THE CUSTOMER'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.

GROUND THE SYSTEM

To minimize shock hazard, the chassis and system cabinet must be connected to an electrical ground. A three-conductor AC power cable should be used. The power cable must either be plugged into an approved three-contact electrical outlet or used with a three-contact to two-contact adapter with the grounding wire (green) firmly connected to an electrical ground (safety ground) at the power outlet.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Do not operate the system in the presence of flammable gases or fumes. Operation of any electrical system in such an environment constitutes a definite safety hazard.

KEEP AWAY FROM LIVE CIRCUITS

Operating personnel must not remove product covers. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with power cable connected. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

DO NOT SERVICE OR ADJUST ALONE

Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

DO NOT SUBSTITUTE PARTS OR MODIFY SYSTEM

Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to VME Microsystems International Corporation for service and repair to ensure that safety features are maintained.

DANGEROUS PROCEDURE WARNINGS

Warnings, such as the example below, precede only potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

WARNING

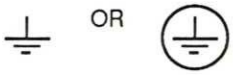
DANGEROUS VOLTAGES, CAPABLE OF CAUSING DEATH, ARE PRESENT IN THIS SYSTEM. USE EXTREME CAUTION WHEN HANDLING, TESTING, AND ADJUSTING.

SAFETY SYMBOLS

GENERAL DEFINITIONS OF SAFETY SYMBOLS USED IN THIS MANUAL

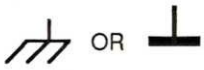
Instruction manual symbol: the product is marked with this symbol when it is necessary for the user to refer to the instruction manual in order to protect against damage to the system.

Indicates dangerous voltage (terminals fed from the interior by voltage exceeding 1000 volts are so marked).



Protective conductor terminal. For protection against electrical shock in case of a fault. Used with field wiring terminals to indicate the terminal which must be connected to ground before operating equipment.

Low-noise or noiseless, clean ground (earth) terminal. Used for a signal common, as well as providing protection against electrical shock in case of a fault. Before operating the equipment, terminal marked with this symbol must be connected to ground in the manner described in the installation (operation) manual.



Frame or chassis terminal. A connection to the frame (chassis) of the equipment which normally includes all exposed metal structures.

Alternating current (power line).

Direct current (power line).

Alternating or direct current (power line).

WARNING

The WARNING sign denotes a hazard. It calls attention to a procedure, a practice, a condition, or the like, which, if not correctly performed or adhered to, could result in injury or death to personnel.

CAUTION

The CAUTION sign denotes a hazard. It calls attention to an operating a procedure, a practice, a condition, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the system.

NOTE:

The NOTE sign denotes important information. It calls attention to a procedure, a practice, a condition or the like, which is essential to highlight.

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3-SLOT VMEbus TABLE TOP ENCLOSURE

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SECTION 1

INTRODUCTION

1.1 SCOPE

This manual covers the use of the VMIVME-103 and its interfacing with desktop workstations such as SUN™, DEC™, IBM™, PC/AT™ and others to VMEbus products.

1.2 FEATURES

For a complete set of features concerning any of the products discussed in this document, refer to the specification sheet for the product of interest. The following lists some basic features of this product:

a. 6U, 3-slot VMEbus backplane, rear access.
b. Low profile, 16 in. x 16 in. x 3 in. (NOT INCLUDING FEET).
c. Easy access, removable top cover.
d. Fan cooled, rear exhaust.
e. 80 W power supply with +5 VDC ± 12 VDC.
f. Painted Sandstone color.
g. Designed to meet FCC CLASS A requirements.
h. Safety certified to UL, CSA, and IEC standards.
i. Ideal for use with workstations.

1.3 FUNCTIONAL DESCRIPTION

The VMIVME-103 Enclosure offers a low profile design perfect for desktop applications. Designed around the industry standard "pizza box" format, the enclosure measures 16-inch x 16-inch x 3-inch (not including feet). Offered as a three-slot system, the enclosure features a 3-slot monolithic backplane/chassis assembly with a built-in power supply (see specifications in Table 1.3-1). The top can be removed for fuse replacement and the setting of jumpers. See Figure 5.4-1 for location of fuse and Figure 5.3-1 for jumper fields.

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DEC is a trademark of DIGITAL EQUIPMENT CORPORATION.
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Table 1.3-1 Power Supply Specifications

80 Watt Power Supply	
OUTPUTS	INPUTS
+5V @ 12A -5V @ 1A +12V @ 3 A/5A pk -12V @ 1A	100-240 VAC 47-63 Hz SINGLE PHASE

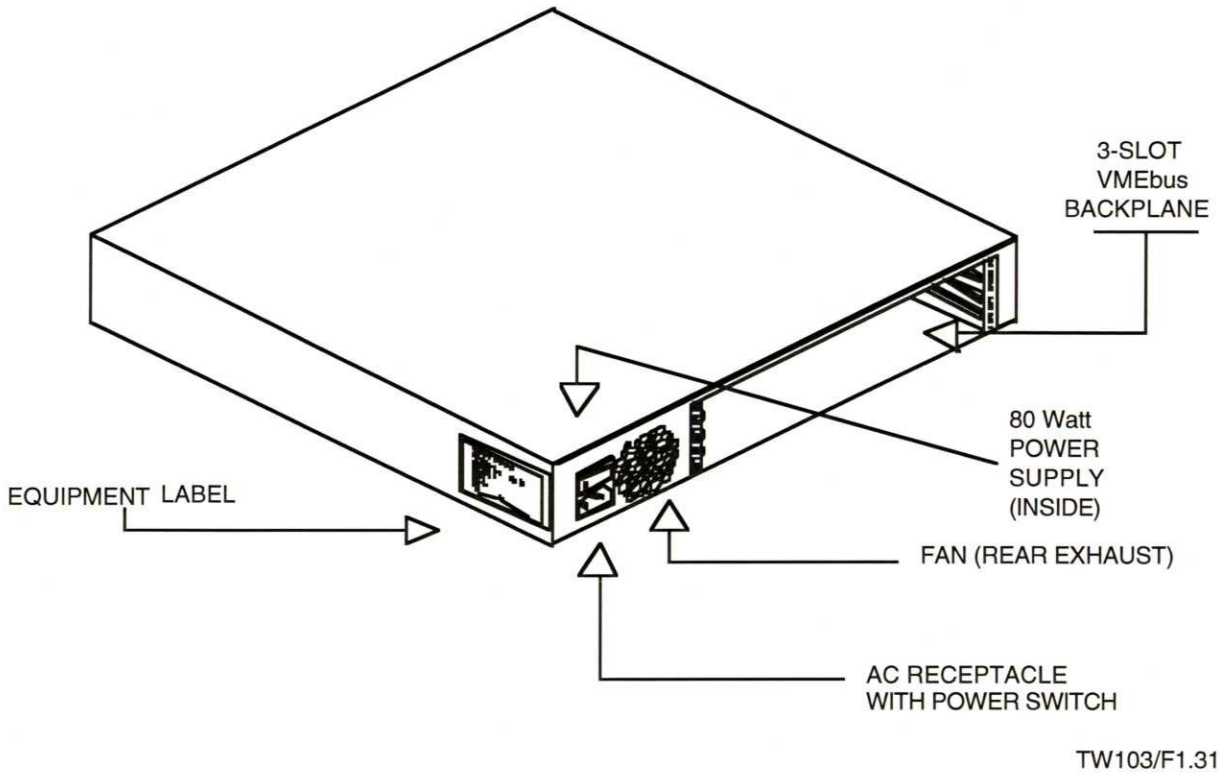

Figure 1.3-1. VMIVME-103 "PIZZA BOX"

SECTION 2

PHYSICAL DESCRIPTION AND SPECIFICATIONS

Refer to VMIC Specification # 800-000017-000 for detailed specifications.

SECTION 3

THEORY OF OPERATION

3.1 INTRODUCTION

The VMIVME-103 is a compact 3-slot VMEbus "pizza box" enclosure useful for interfacing desktop workstations such as SUN™, DEC™, IBM™, PC-AT™, and others to VMEbus products. When used with VMIC's series of workstation-to-VMEbus links, this enclosure provides a convenient, aesthetically pleasing means of accessing the wide variety of VMEbus products available.

Cooling is provided by an internal fan that exhausts at the rear while pulling air in through the side. No air flow through the top or bottom is required for allowing easy stacking of enclosures.

The chassis is positioned in the enclosure to provide direct access to VME board front panels for ease in cabling. An easily removable top cover allows access into the enclosure. Constructed of .062 aluminum, the VMIVME-103 offers a lightweight, compact size while maintaining maximum structural integrity for supporting video monitors.

The VMIVME-103 uses a double-height (6U form factor), 3-slot VMEbus backplane with card guides provided for accurate insertion of VMEbus boards to/from the P1 and P2 connectors. The 80-watt power supply provides the system with a stable ±5 VDC and ±12 VDC power supply.

SECTION 4

PROGRAMMING

This product does not require any programming.

SECTION 5

CONFIGURATION AND INSTALLATION

5.1 UNPACKING PROCEDURES

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*****************
*    CAUTION    *
*****************
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SOME OF THE COMPONENTS ASSEMBLED ON VMIC'S PRODUCTS MAY BE SENSITIVE TO ELECTROSTATIC DISCHARGE AND DAMAGE MAY OCCUR ON BOARDS THAT ARE SUBJECTED TO A HIGH ENERGY ELECTROSTATIC FIELD. UNUSED ENCLOSURES SHOULD BE STORED IN THE SAME PROTECTIVE BOXES IN WHICH THEY WERE SHIPPED. WHEN INSERTING OR REMOVING BOARDS FROM THE ENCLOSURE. IT IS SUGGESTED THAT POWER NOT BE APPLIED.

Upon receipt, any precautions found in the shipping container should be observed. All items should be carefully unpacked and thoroughly inspected for damage that might have occurred during shipment. The enclosure(s) should be checked for broken components, dents in cover, heat damage, and other visible contamination. All claims arising from shipping damage should be filed with the carrier and a complete report sent to VMIC together with a request for advice about the disposition of the damaged item(s).

5.2 PHYSICAL INSTALLATION

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*****************
*    CAUTION    *
*****************
```

DO NOT INSTALL OR REMOVE BOARDS FROM THE ENCLOSURE WHILE POWER IS APPLIED.

De-energize the equipment and insert the board into the enclosure in an appropriate slot of the chassis. While ensuring that the board is properly aligned and oriented in the supporting card guides, slide the board smoothly forward against the mating connector until firmly seated.

5.3 VMEbus BACKPLANE SET-UP

The VMIVME-103 contains a 3-slot, 6U VMEbus backplane that allows the user to configure the bus grant and IACK jumpers. Figure 5.3-1 shows the location of the jumper fields. The bus grant and IACK fields at the top of the VMEbus backplane are also accessible via the front of the backplane (i.e. connector side). Questions regarding jumpering of the fields should be referred to the VMEbus specifications.

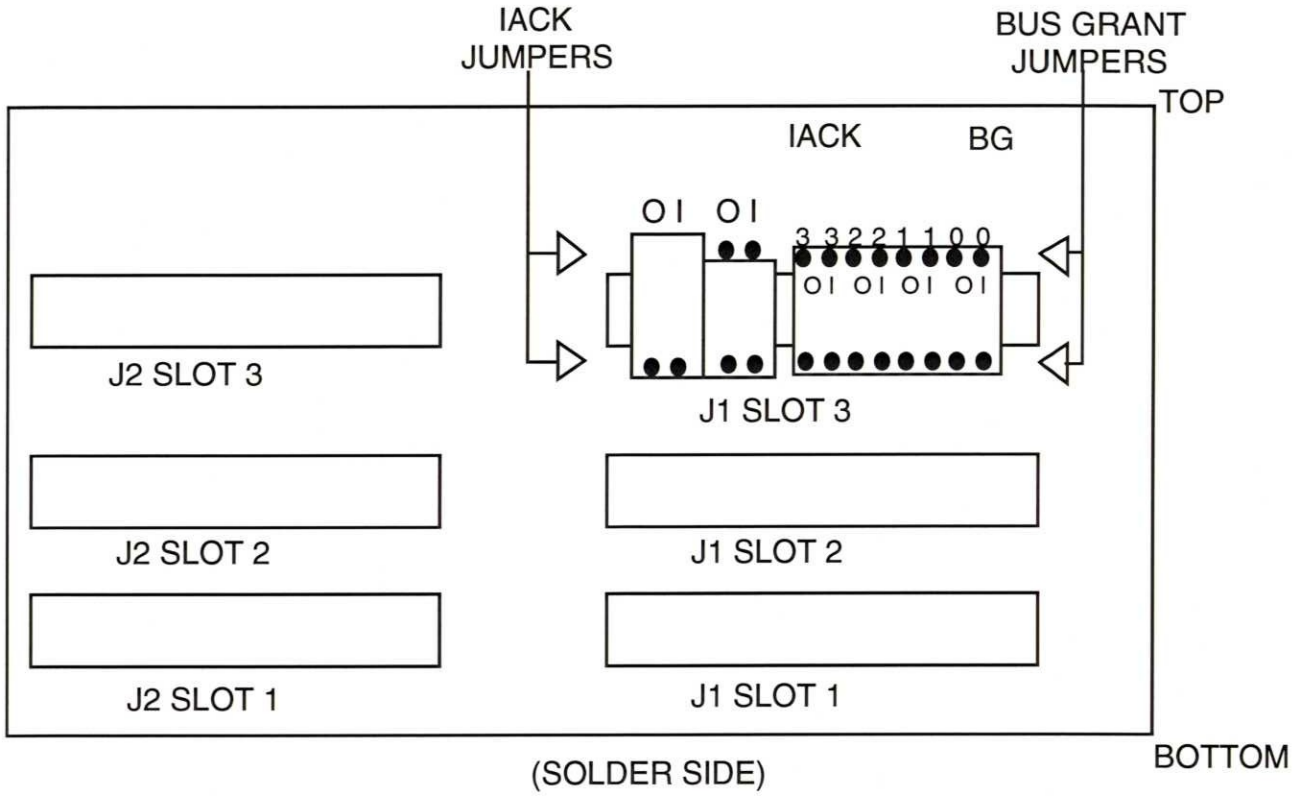
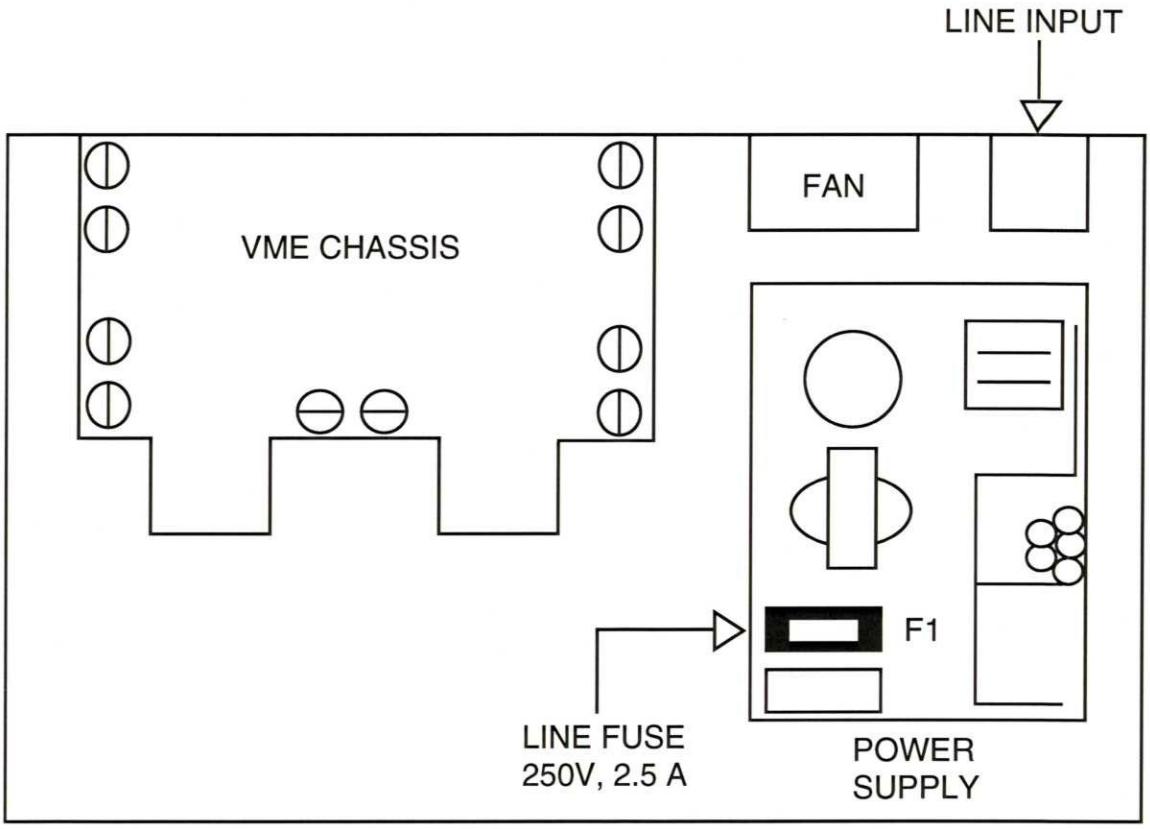


Figure 5.3-1. VMEbus Backplane, Rear View

5.4 POWER SUPPLY LINE FUSE

The VMIVME-103 uses a power supply that contains a line fuse, providing protection against excessive line current conditions. The power supply is located inside the enclosure and requires that the cover be removed for access (see Section 5.6 for cover removal). Replacement fuses should be rated at 250V, 2.5A and should be placed in the location marked F1 shown in Figure 5.4-1.

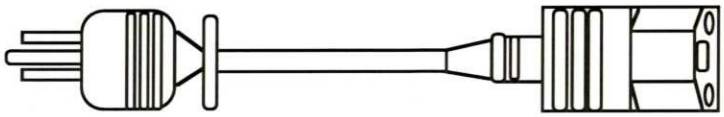


TW103/F5.4-1

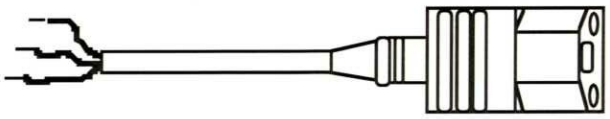
Figure 5.4-1. Power Supply Line Fuse Location

5.5 POWER CORD

The user will be supplied with a "UL" certified domestic power cord with the appropriate power plug when the domestic option is chosen. When choosing the international option, the user will be required to supply the appropriate international power plug required by the installation site. The international power cord is a 3 conductor, 10A-250V rated, female connect only, 8'2" unshielded cord. Harmonized cordage is utilized on all European products and include color coded wires and the harmonization symbol (HAR) printed on the insulation. See Figure 5.5-1 for power cord options:



DOMESTIC POWER CORD



INTERNATIONAL POWER CORD *

Light Blue - Neutral
Brown - Line
Green/Yellow - Earth or Ground

TW103/F5.5-1

NOTE: Customer must supply power plug for international power cord.

Figure 5.5-1. VMIVME-103 Power Cord Options

5.6 COVER REMOVAL

The metal cover of the VMIVME-103 can be removed to allow configuration on the VMEbus backplane jumpers or replacement of the power supply line fuse. The following steps should be followed for cover removal:

a.) Turn AC power off at the input power receptacle.
b.) Remove power cord.
c.) Remove screws A and B shown in Figure 5.6-1.
d.) Slide metal cover toward front (away from side with VMEbus slots and fan exhaust) and lift up.

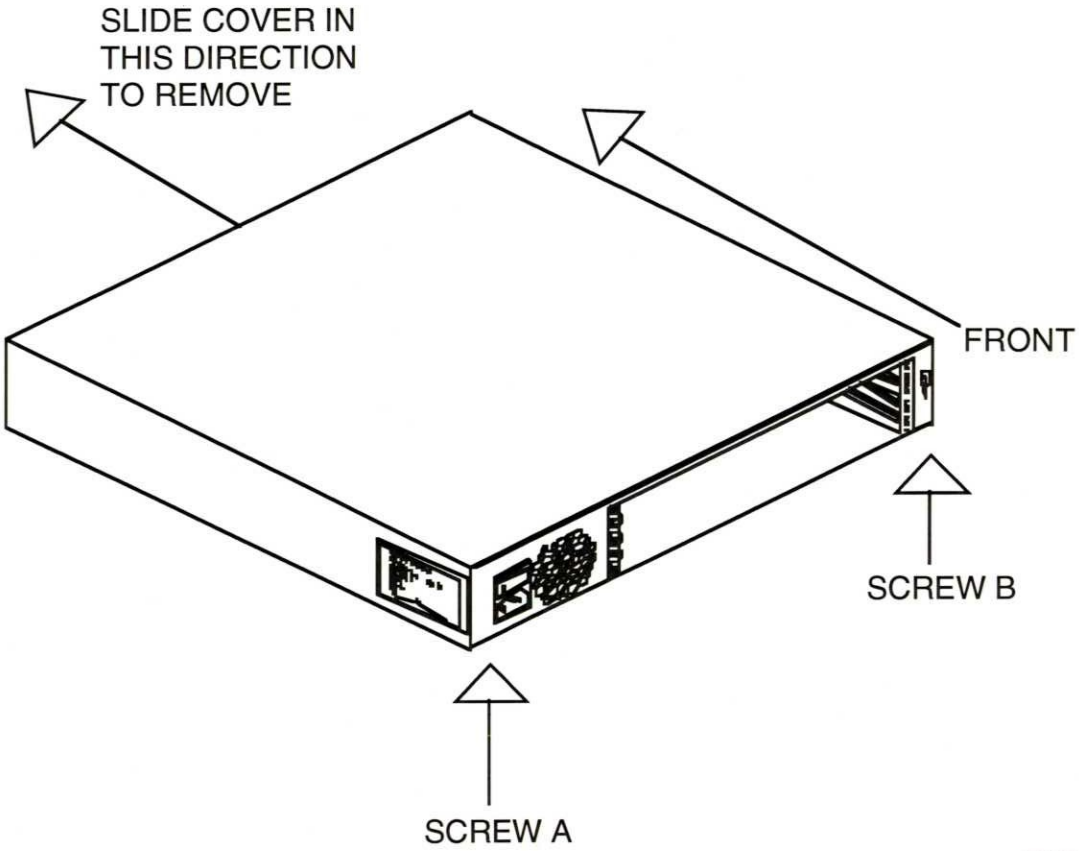


Figure 5.6-1. Cover Removal

5.7 INSTALLATION

The VMIVME-103 may be installed in a variety of configurations depending on the system being used. Typical applications of the VMIVME-103 are shown in Figure 5.7-1 and 5.7-2.

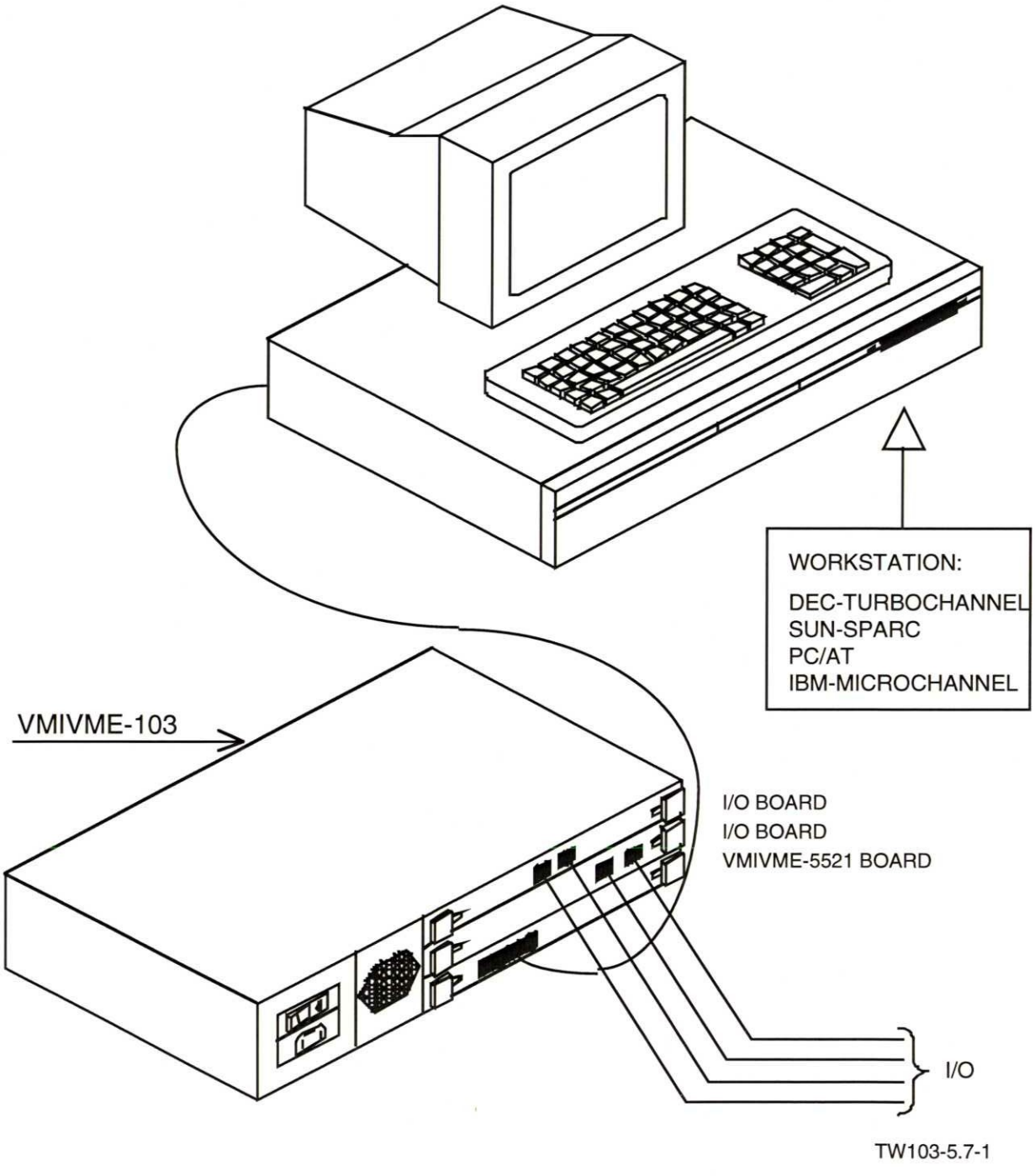


Figure 5.7-1. Typical Application of the VMIVME-103

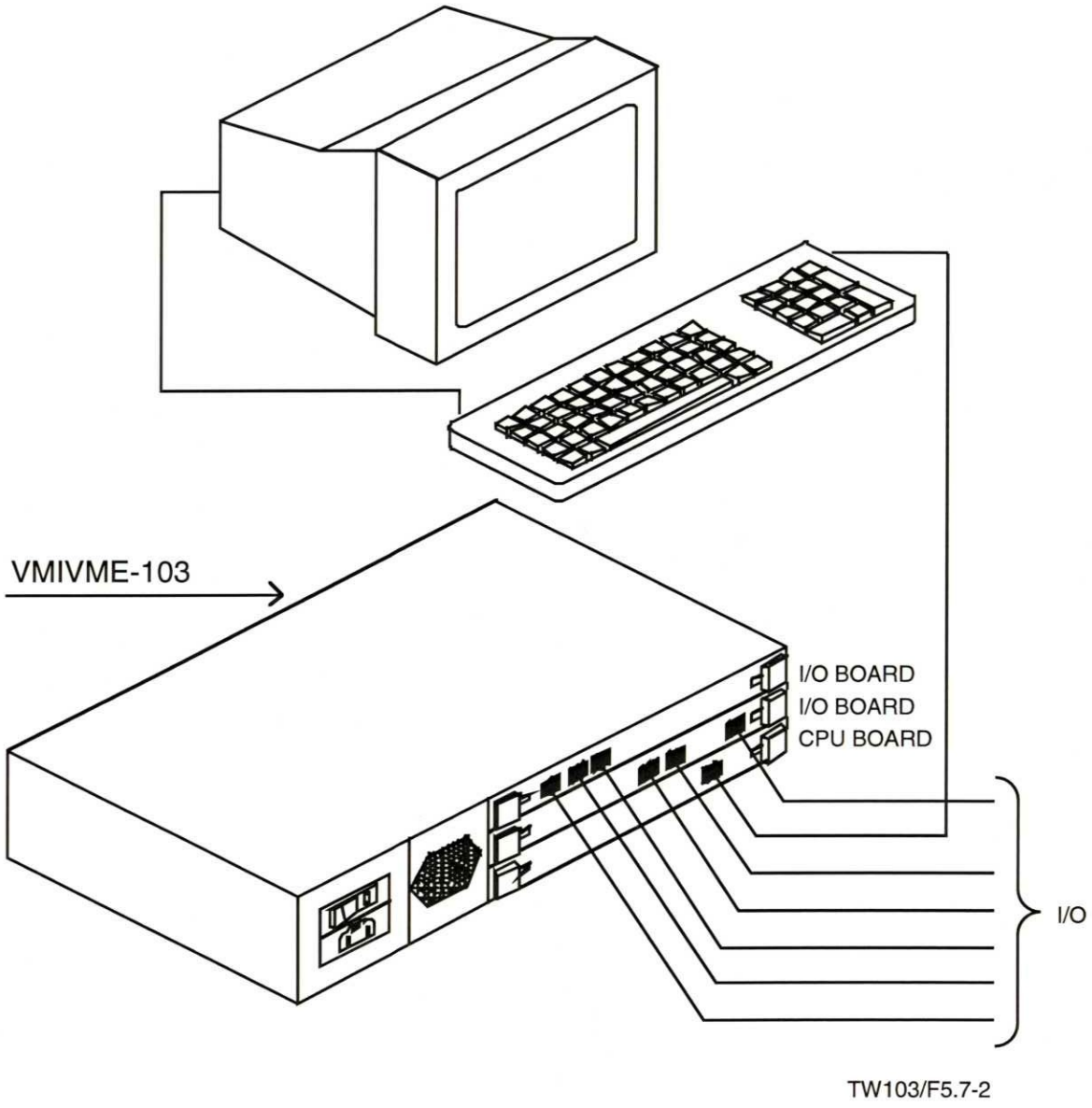


Figure 5.7-2. Typical Application of the VMIVME-103

SECTION 6

MAINTENANCE AND WARRANTY

6.1 MAINTENANCE

This section of the technical manual provides information relative to the care and maintenance of VMIC's products. Should the products malfunction, the user should verify the following:

a. Software
b. System configuration
c. Electrical connections
d. Jumper or configuration options
e. Boards fully inserted into their proper connector location
f. Connector pins are clean and free from contamination
g. No components of adjacent boards are disturbed when inserting or removing the board from the VMEbus card cage
h. Quality of cables and I/O connections

User level repairs are not recommended. Contact VMIC for a Return Material Authorization (RMA) Number. This RMA Number must be obtained prior to any return.

6.2 MAINTENANCE PRINTS

The appendix(ices) to this manual contain(s) drawings and diagrams for reference purposes.

6.3 WARRANTY

VMIC's Standard Products are warranted to be free from defects in material and workmanship for a period of two years (24 months) from the date of shipment. In discharge of this warranty, VMIC, at its option, agrees to either repair or replace, at VMIC's facility and at VMIC's discretion, any part, component, subassembly accessory, or any hardware, software, or system product, which under proper and normal use proves defective in material and workmanship.

The customer shall provide notice to VMIC of each such defect within a reasonable time after the customer's discovery of such defect.

In order to return the defective product(s) or part(s), the customer must contact VMIC's Customer Service Department to obtain a Call Ticket Number. The

defective product(s) or part(s) must also be properly boxed and weighed. After a VMIC Call Ticket Number and RMA Number have been obtained, the defective product(s) or part(s) may be returned (transportation collect for surface UPS) to VMIC. Any replaced or repaired product(s) or part(s) will be shipped back to the customer's at the expense of VMIC (also UPS surface).

The customer should be aware that the above process can sometimes take up to eight (8) days for the shipment to reach VMIC. The customer has the option to ship the defective product(s) or part(s) at the customer's own expense if the customer cannot afford this possible delay.

There shall be no warranty or liability on any VMIC product(s) or part(s) that is (are) damaged or subjected to accident(s), perils of nature, negligence, overtemperature, overvoltage, misapplication of electrical power, insertion or removal of boards from backplanes and/or I/O connectors with power applied by the customer(s), appointee(s), or any other person(s) without the expressed approval of VMIC.

Final determination of warranty eligibility shall be made by VMIC, and if a warranty claim is considered invalid for any reason, the customer will be charged for services performed and expenses incurred by VMIC in repair, handling and shipping the returned product or part. Determination as to whether the item is within warranty, coverage shall not be unreasonably withheld.

The warranty period of the replacement or repaired product(s) or part(s) shall terminate with the termination of the warranty period with respect to the original product(s) or part(s) for all replacement parts supplied or repairs made during the original warranty period.

THE FOREGOING WARRANTY AND REMEDY ARE EXCLUSIVE AND VMIC SHALL HAVE NO OTHER OR ADDITIONAL LIABILITY TO BUYER OR TO ANYONE CLAIMING UNDER BUYER (THIRD PARTY) UNDER ANY OTHER AGREEMENT OR WARRANTY, EXPRESS OR IMPLIED EITHER IN FACT OR BY OPERATION OF THE LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, STATUTORY, OR OTHERWISE. VMIC SHALL HAVE NO LIABILITY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR FROM ANY CAUSE ARISING OUT OF THE INSTALLATION OR USE OF ANY PRODUCT FURNISHED HEREUNDER.

6.4 OUT-OF-WARRANTY REPAIR POLICY

The following sections describe VMIC's policy on repairs and warranties on repaired products.

6.4.1 Repair Category

VMIC's repair policy of standard products is divided into two categories, depending on the item to be repaired. These categories are:

a. Product Exchange
b. Fixed Price Repair

Category 1 (product exchange) represents the fastest turn around of the two categories. In this case, the customer sends the malfunctioning product to VMIC. VMIC will return an operational product to the customer within 72 hours of receipt provided VMIC has the product in stock.

Provided that the returned product is repairable customers should contact VMIC prior to returning products for repair to determine stocking status.

Category 2 (Fixed Price Repair) applies to products returned to VMIC for repair and subsequent return to the customer.

Return authorizations are required on all product repairs, and all purchase orders should refer to VMIC's RMA Number which is assigned by VMIC's Customer Service Department.

6.4.2 Repair Pricing

Contact your factory representative for repair pricing. Current pricing can be found in the Repair and Replacement Policy in the most current Standard Conditions of Sales Document (F0109-91). Refer to exclusions (Section 6.4.7).

6.4.3 Payment

Payment is due upon delivery or at VMIC's option, net thirty (30) days from the date of delivery. Payment should be made to:

VME Microsystems International Corporation
12090 South Memorial Parkway
Huntsville, Alabama 35803-3308
Attention: Accounts Receivable

VMIC allows a one (1) percent discount for payment made within ten (10) days of invoice date or a two (2) percent discount on payment made prior to shipment of order. This payment discount, however, does not apply to freight.

6.4.4 Shipping Charges

Shipping charges are the customer's responsibility, with the exception of warranty repairs, whereby VMIC will pay the return to customer shipping charges.

6.4.5 Shipping Instructions

The type of packaging used to ship the product depends on whether the product is shipped singly, in a chassis, or packaged with other boards. The shipper should carefully pack the product(s), using the same precautions listed in the "unpacking procedures". The user should utilize the same (or equivalent) protective packaging container for re-shipment as provided by VMIC. Approved ESD procedures are recommended when handling VMIC's products.

6.4.6 Warranty on Repairs

Products repaired by VMIC are warranted against defects in workmanship and material for a period of ninety (90) days from date of shipment to the customer for all products that were repaired out of warranty. See Standard Conditions of Sale for products repaired within the warranty.

6.4.7 Exclusions

Repair rates may not apply to products which have received unusual physical or electrical damage. In such cases, VMIC will provide an estimated price for product repair or replacement. The customer may then choose to have the product repaired at the estimated price, returned unrepaired at no charge, or replaced at VMIC's current list price.