Zetaco's VME SCSI Adapter
Installation Guide

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Introduction

This reference guide explains, step-by-step, how to install the VME SCSI Adapter, from unpacking the Adapter to powering it up. You may want to read through all of the information before actually installing the hardware. Zetaco's VME SCSI Adapter is designed for use in Sun 4/3xxx and 4/4xx systems and is used to connect one or more Hewlett Packard Optical Disk Libraries (jukeboxes). Any other devices, such as tape or disk drives, or other optical disk libraries are not supported with the VME SCSI Adapter.

Installation Overview

The installation process described in this reference guide is designed to proceed in a logical fashion and provide methods for you to verify results. After all the hardware is in place, the power-up sequence will provide a partial confirmation of success.

Installing the VME SCSI Adapter involves the following steps:

- ☐ Unpacking the VME Adapter

- ☐ Getting Ready

- ☐ Setting the Jumpers on the VME Adapter

- ☐ Selecting a Slot for the Adapter in the Computer Chassis

- ☐ Inserting the VME Adapter into the Computer Chassis

- ☐ Powering-Up the Adapter & Observing the LEDs

- ☐ Configuring & Connecting the HP Optical Disk Library.

Unpacking the Adapter

Inspecting Your Shipment

Immediately after receiving the Adapter, and before you unpack it, inspect the shipping carton for any evidence of damage or mishandling. The warranty does not cover shipping damages. Therefore, if the shipping carton(s) are water stained, or otherwise damaged, contact the carrier or shipping agent before you open it, with information on the damage. If necessary, request that the carrier's representative be present during the receiving inspection.

For repair or replacement of any Zetaco product damaged in shipment, call Zetaco at (612) 890-5135 for return instructions and an authorization number.

Note: Before you remove the VME Adapter from its shipping carton, it's a good idea to use a wrist band and strap. The Adapter is a sensitive piece of electronic equipment. Using a wrist band and strap is a good precaution to take to prevent damage caused by static electricity.

CAUTION
OBSERVE PRECAUTIONS FOR HANDLING
ELECTROSTATIC SENSITIVE DEVICES

The VME Adapter is shipped in one carton and contains the following:

(1) VME SCSI Adapter wrapped in an anti-static bag.

(1) One SCSI cable

(1) VME SCSI Hardware Installation Guide

If any of the above items are missing from your shipment, contact your Zetaco representative.

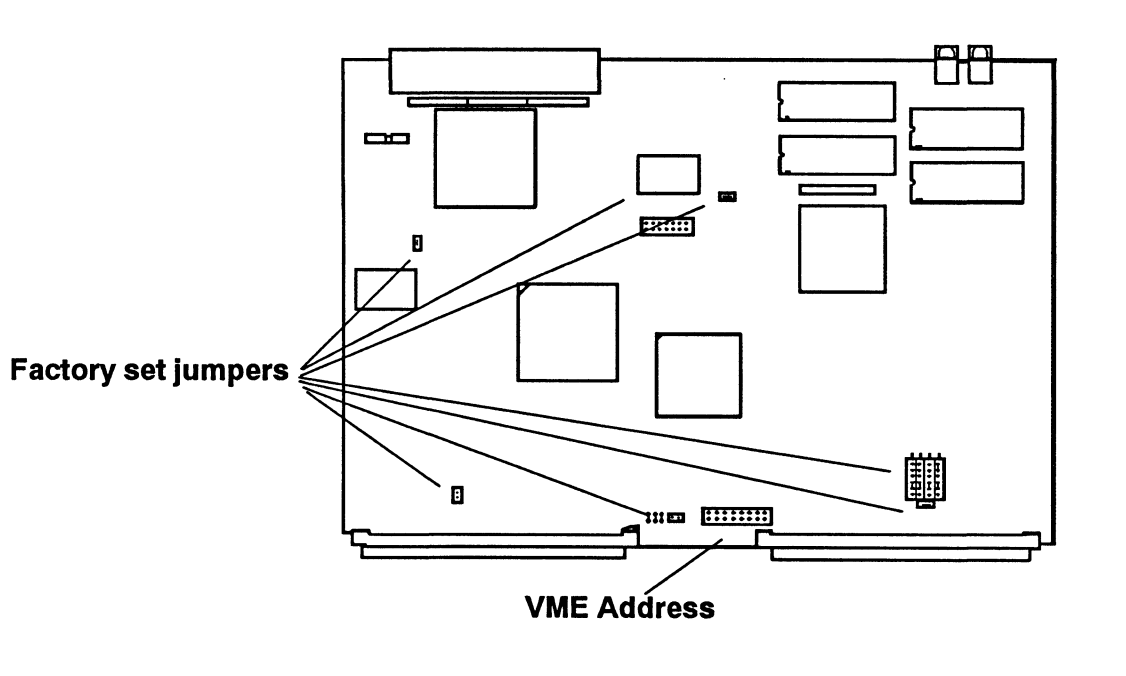# Installing the Adapter

Getting Ready

After you've unpacked the VME Adapter and inspected it for damage, obtain the tools listed below to assist in installing the Adapter (consult your specific computer hardware installation manual for other tools that may be required). Tools you may need for installation include:

A large straight-blade screwdriver
A small straight-blade screwdriver
A Phillips screwdriver
A set of needlenose pliers

Setting the Jumpers

There are eight blocks of jumpers on the VME SCSI Adapter. Seven of the eight blocks should be left at the factory setting. The eighth jumper block, for setting the VMEbus address and address modifier, should be changed based on your specific installation.

The location of the eight blocks of jumpers are shown below:

Factory set jumpers

VME Address

Factory-set Jumpers

Leave these jumpers as set by the Zetaco factory. They are used by the technicians who test the board before shipping.

Note: If you change the setting of any of these jumpers the adapter will not work.

VME Address Jumpers

This set of jumpers is used to select the address at which the VME Adapter can be addressed by the system. The jumpers set the upper 7 bits of the 16-bit address, thereby reserving 512 bytes of address space.

Also bit 2 of the address modifier line needs to be set. With this jumper *IN* you can elect to have the VME Adapter reserved for short supervisory access only. If the jumper is *OUT*, the board will be in short non-privileged access mode.
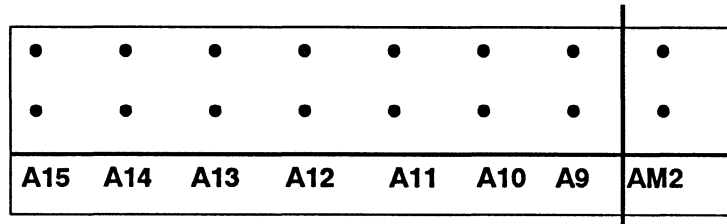
The default address setting is 7000H, with address modifier of 2DH. These addresses can be changed, using the following conventions:

For the VMEbus Address Jumpers
IN   Is equal to a 0 for that address bit
OUT   Is equal to a 1 for that address bit

For the Address Modifier Jumper
IN   Is equal to Address Modifier 29H
OUT   Is equal to Address Modifier 2DH

Note: The address modifier jumper should not be changed; it should be left at OUT.

The VMEbus Address Jumper block pins correspond to the VMEbus address lines as follows:

| A15 | A14 | A13 | A12 | A11 | A10 | A9 | AM2 |

Example Addresses

Below is a table of common VME Adapter Base Addresses. The table demonstrates the settings of the VMEbus Address Jumpers and the VMEbus Address Modifier Jumper for each of the addresses.

| VMEbus Address Lines | | | | | | | | Base | Address |
A15	A14	A13	A12	A11	A10	A9	AM2	Address	Modifier
Out	Out	Out	In	Out	Out	Out	Out	EE00H	2DH
Out	Out	Out	In	Out	Out	Out	In	EE00H	29H
Out	Out	In	In	Out	In	Out	Out	CA00H	2DH
Out	In	Out	In	In	In	In	In	A000H	29H
In	Out	In	Out	In	In	In	Out	5000H	2DH
In	Out	In	In	In	In	In	In	4000H	29H
In	In	Out	Out	Out	Out	Out	Out	3E00H	2DH
In	In	Out	Out	Out	Out	In	In	3C00H	29H
In	In	Out	In	Out	In	Out	Out	2A00H	2DH
In	In	Out	In	Out	In	In	In	2800H	29H

Please Note: Sun recommends using the first 0 - 8000 hexidecimal numbers for addresses.

Inserting the Adapter into the Chassis

You are now ready to physically install the Adapter into the computer chassis. Review the general guidelines listed below and refer to your Sun 4/3xx or 4/4xx system hardware installation guide for detailed information.

1.   Make sure power to your computer is turned off. Also, make sure you are wearing a wrist band and strap when handling the Adapter.

2.   Remove the computer system's enclosures and determine which slot to use within the computer chassis. Choose any free 9U VME slot for the Adapter.

Note: Some Sun computer systems include 6U slots. Only use a 9U slot for installing the VME SCSI Adapter.

3.   Remove the bus grant arbitration and interrupt acknowledge jumpers from the backplane. You will need to remove the four Bus Grant jumpers,and the Interrupt Acknowledge daisy-chain jumper from the slot chosen for the VME Adapter. These jumpers are only used in slots that are empty.

4.   Hold the VME Adapter by its corners, and avoid contacting any of the components on the surface of the Adapter. This will prevent the discharge of static electricity through components on the board, which could damage it.

5.   Align the VME Adapter with the board guides on the subrack for the slot you have chosen. Be sure you use the correct orientation. (If J1 on the subrack backplane is up, the component side of the board should face right.)

6. Slide the Adapter forward and firmly press into the J1 and J2 connectors on the backplane. You should feel it give slightly as you press inward.

7. Fasten the small screws on the VME Adapter into the subrack. You will need a small flat bladed screwdriver.

8. <u>Do not</u> replace the enclosure panels yet. You will need to observe the faceplate LEDs when you apply power.
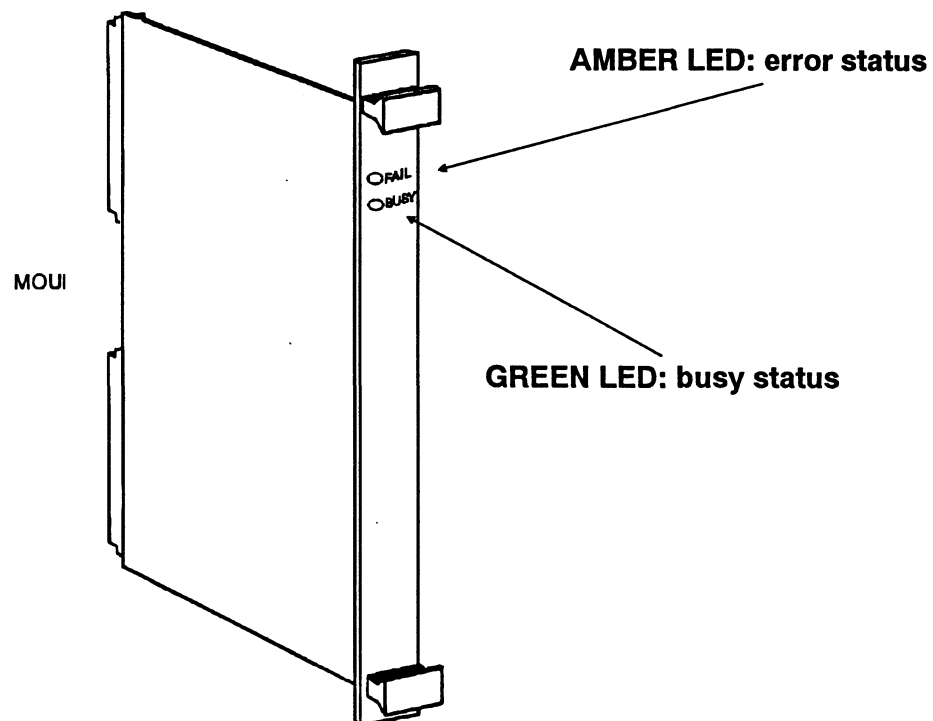
Applying Power

The VME Adapter has two LEDs on its faceplate that indicate its state on power-up. The best way to test for initial problems is to apply power to your system and observe the LEDs on the faceplate.

Meaning of LEDs

One LED is green and the other is amber. The LEDs are used in the following manner:

- Green indicates a BUSY status when the board is processing commands.

- Amber indicates an ERROR condition.

AMBER LED: error status

GREEN LED: busy status

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Power-Up Sequence

Power on your system and observe the following:

1. Both LEDs will light-up briefly, then the GREEN LED will go out.

2. The AMBER will stay on for less than one second, while the self-test is running.

3. The AMBER LED will go out, indicating the self-test has passed.

Error Conditions

The amber LED is used to indicate an error condition. Either the amber LED will blink or stay on solidly.

Blinking
This indicates a self-test failure.

Solid
This indicates a catastrophic error during operation such as a bus error or timeout.

Configure & Connect the Optical Disk Library

Before connecting the HP Optical Disk Library to the VME SCSI Adapter, make sure you have followed the configuration and installation guidelines outlined in the jukebox reference guide - HP C170A Rewriteable Optical Disk Library System.

When the optical jukebox is properly setup, connect the jukebox with the Adapter using the single SCSI cable supplied with the jukebox. Note that the HP jukebox must be configured as the last SCSI device on the chain of SCSI connections. This will require plugging a terminator into the SCSI socket on the back of the jukebox. Also make sure the SCSI ID is set correctly for each optical disk drive.