VL-300
VL-310

Fast SCSI - 2
IDE & Multi I/O

VL-Bus
Host Adapter
User's Manual

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FEDERAL COMMUNICATIONS
COMMUNICATION REQUIREMENTS

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interference cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Quick Installation Guide

Hardware Installation

The VL-300/310 Fast SCSI-2/IDE/Multi I/O host adapter has been designed to operate as shipped in the majority of VESA Local Bus class computer. The host adapter's factory default settings should remain in their original positions. The VL-300/310 are shipped with following factory default settings:

* SCSI Disconnection	Enabled
* SCSI ID	7
* SCSI Parity	Enabled
* SCSI Terminators	Installed
* SCSI Terminator Power	Supplying
* SCSI Synchronous Negotiation	Enabled
* SCSI BIOS	Enabled
* SCSI ROM BIOS Address	DC000
* SCSI Interrupt Channel(IRQ)	11
* SCSI DMA Request Channel	0
* SCSI I/O Port Address	340h-35Eh
* IDE I/O Port Address	034h, 038h, 03Ch
* Support Two IDE Disk Drive	Enabled
* Support Two Floppy Disk Drive	Enabled (for VL-300)
* Support Four Floppy Disk Drive	Enabled (for VL-310)
* Serial Port	COM1(3F8h, IRQ4) COM2(2F8h, IRQ3)
* High Speed 16C550 Serial Port	Enabled (for VL-310)
* Parallel Port	LPT1(378h, IRQ7) Enabled
* Bi-directional Parallel Port	Enabled (for VL-310)
* EPP & ECP mode	Disabled (for VL-310)
* Game Port	Enabled

To Perform Installation

1. **Turn off Power to the System and External Equipment.**
2. Slide the external connector of the VL-300/310 through the hole in the back of the system that corresponds to the unused VL slot.
3. Secure the VL-300/310 external connector to the computer frame. Use the screws that you removed with the expansion slot cover.
4. Attach the 50-pin ribbon SCSI cable to the VL-300/310's SCSI internal connector (SCSI A)and your SCSI peripherals.
5. If you are going to use an external SCSI device, connect it to the VL-300/310 using a 50-pin SCSI cable(please refer Appendix E for the message of optional kits). Plug the cable connector into the external connector (SCSI B) of the VL-300/310 and secure it with the bail clips on the external connector.
6. The SCSI factory-installed ***terminators on the VL-300/310 should be removed if, and only if, you attach SCSI devices to both an internal and external cable***, since the internal and external SCSI connectors are the same SCSI bus.
7. If you are going to use an IDE disk drive, verify cable (pin1) orientation and attach the free end of the 40-pin ribbon cable to the IDE disk drive.
8. If you are installing the VL-300/310 and want to use it with the floppy disk drive, peripheral with serial port interface, peripheral with parallel port interface or joy stick, connect the free end of the necessary cable to these peripherals.
9. If you are installing the VL-310 and want to use it with three or four floppy disk drives, please refer Chapter 4 for driver installation.
10. Please refer Chapter 2 for EPP & ECP jumper setting.
11. Reassemble your PC system in the reverse order.

Jumper and Switch Configuration

IDE & MULTI I/O JUMPER SETTING

A. VL-300

J4	1-2 (default)	IDE port enabled
	2-3	IDE port disabled
J7	1-2	IDE port address 034h, 038h, 03Ch (for Adaptec 25VL01 or APPIAN ADI2 A) IDE port address AD4h, AD8h, ADCh (for APPIAN ADI2 B)
	2-3 (default)	IDE port address 0B4h, 0B8h, 0BCh
J10		IDE HDD LED Connector
J11	Open (default)	support two IDE hard disk drive
	Close	support one IDE hard disk drive
JP11	1-2 (default)	printer port enabled
	2-3	printer port disabled
JP14	1-2 (default)	floppy port enabled
	2-3	floppy port disabled
JP15	1-2 (default)	LPT1 (378h)
	2-3	LPT2 (278h)

B. VL-310

J4	1-2 (default)	IDE port enabled
	2-3	IDE port disabled
J12	1-2 (default)	floppy port enabled
	2-3	floppy port disabled

J14	1-3 4-6 (default)	LPT1 (378h, IRQ7)
	1-3 2-4	LPT2 (278h, IRQ7)
	3-5 2-4	LPT3 (3BCh, IRQ7)
	3-5 4-6	disabled
J17	1-2	Floppy secondary address 370h
	2-3 (default)	Floppy primary address 3F0h
J27	1-2 (default)	game port enabled
	2-3	game port disabled
J35	1-2	IDE port address 034h, 038h, 03Ch (for Adaptec 25VL01 or APPIAN ADI2 A) IDE port address AD4h, AD8h, ADCh (for APPIAN ADI2 B)
	2-3 (default)	IDE port address 0B4h, 0B8h, 0BCh
J38		IDE HDD LED Connector
J39	Open (default)	support two IDE hard disk drive
	Close	support one IDE hard disk drive

Serial Port Setting

A. VL-300

COMA (CN5)	COMB (CN4)	JP17	JP18	JP19	JP20
COM1	COM2 (default)	1-2	1-2	1-2	1-2
COM1	COM4	1-2	1-2	1-2	2-3
COM1	Disabled	1-2	1-2	2-3	----
COM3	COM2	1-2	2-3	1-2	1-2
COM3	COM4	1-2	2-3	1-2	2-3
COM3	Disabled	1-2	2-3	2-3	----
Disabled	COM2	2-3	----	1-2	1-2
Disabled	COM4	2-3	----	1-2	2-3
Disabled	Disabled	2-3	----	2-3	----

B. VL-310

COMA	COMB	J30	J30	J31	J31
COM1	COM2 (default)	1-3	2-4	1-3	2-4
COM1	COM4	1-3	2-4	3-5	2-4
COM1	Disabled	1-3	2-4	3-5	4-6
COM2	COM1	1-3	4-6	1-3	4-6
COM2	COM4	1-3	4-6	3-5	2-4
COM2	Disabled	1-3	4-6	3-5	4-6
COM3	COM1	3-5	2-4	1-3	4-6
COM3	COM2	3-5	2-4	1-3	2-4
COM3	COM4	3-5	2-4	3-5	2-4
COM3	Disabled	3-5	2-4	3-5	4-6
Disabled	COM1	3-5	4-6	1-3	4-6
Disabled	COM2	3-5	4-6	1-3	2-4
Disabled	COM4	3-5	4-6	3-5	2-4
Disabled	Disabled	3-5	4-6	3-5	4-6

Remarks:
The specify I/O address list in below.

COM1 address -- 3F8h(IRQ4) COM2 address -- 2F8h(IRQ3)
COM3 address -- 3E8h(IRQ4) COM4 address -- 2E8h(IRQ3)

SCSI JUMPER SETTING

JP25(VL-300)/ J32(VL-310)	pin 1	SCSI Device LED Connector/Vcc
	pin 2	SCSI Device LED Connector/Signal
	pin 3	SCSI Device LED Connector/Signal
	pin 4	SCSI Device LED Connector/Vcc

A. VL-300

CN10

I2(pin 1-9)	open	IRQ channel 12 disabled (default)
	close	IRQ channel 12 enabled
I1(pin 2-10)	open	IRQ channel 11 disabled
	close	IRQ channel 11 enabled (default)
I0(pin 3-11)	open	IRQ channel 10 disabled (default)
	close	IRQ channel 10 enabled
I9(pin 4-12)	open	IRQ channel 9 disabled (default)
	close	IRQ channel 9 enabled
AL(pin 5-13)	open	port address 340h (default)
	close	port address 140h

				(default)
J6(pin 6-14)	open	open	close	close
J4(pin 7-15)	close	open	open	close
BIOS Address	C8000	D8000	CC000	DC000

BE(pin 8-16)	open	BIOS disabled
	close	BIOS enabled (default)

CN11

								(default)
SD(pin 1-9)	open	close	open	close	open	close	open	close
SD(pin 2-10)	open	open	close	close	open	open	close	close
SD(pin 3-11)	open	open	open	open	close	close	close	close
SCSI ID	0	1	2	3	4	5	6	7

			(default)	
IC(pin 4-12)	open	close	open	close
IC(pin 5-13)	open	open	close	close
IRQ channel	IRQ9	IRQ10	IRQ11	IRQ12

DC(pin 6-14)	open	factory reserved
DC(pin 7-15)	open	factory reserved
SP(pin 8-16)	open	parity checking enabled (default)
	close	parity checking disabled

CN12

DT(pin 1-9)	open	factory reserved
BT(pin 2-10)	open	boot operation disabled
	close	boot operation enabled (default)
M0(pin 3-11)	open	factory reserved
M1(pin 4-12)	open	factory reserved
SN(pin 5-13)	open	synchronous negotiation disabled
	close	synchronous negotiation enabled(default)
DN(pin 6-14)	open	disconnection disabled
	close	disconnection enabled (default)
R_(pin 7-15)	open	BIOS support floptical disabled(default)
	close	BIOS support floptical enabled
R_(pin 8-16)	open	6360 enhanced features disabled
	close	6360 enhanced features enabled(default)

B. VL-310

J29

Pin 1-2	open	parity checking enabled (default)
	close	parity checking disabled

			(default)	
Pin 3-4	open	open	close	close
Pin 5-6	open	close	open	close
IRQ channel	IRQ9	IRQ10	IRQ11	IRQ12

								(default)
Pin 7-8	open	open	open	open	close	close	close	close
Pin 9-10	open	open	close	close	open	open	close	close
Pin 11-12	open	close	open	close	open	close	open	close
SCSI ID	0	1	2	3	4	5	6	7

Remark:

Pin 7-8	=SCSI ID BIT 2
Pin 9-10	=SCSI ID BIT 1
Pin 11-12	=SCSI ID BIT 0

J30

Pin 1-2	open	synchronouts negotiation disabled
	close	synchronous negotiation enabled(default)
Pin 3-4	open	disconnection disabled
	close	disconnection enabled (default)
Pin 5-6	open	6360 enhanced features disabled
	close	6360 enhanced features enabled(default)
Pin 7-8	open	BIOS support floptical disabled(default)
	close	BIOS support floptical enabled
Pin 9-10	open	boot operation disabled
	close	boot operation enabled (default)

J31

Pin 1-2	open	IRQ channel 12 disabled (default)
	close	IRQ channel 12 enabled
Pin 3-4	open	IRQ channel 11 disabled
	close	IRQ channel 11 enabled (default)
Pin 5-6	open	IRQ channel 10 disabled (default)
	close	IRQ channel 10 enabled
Pin 7-8	open	IRQ channel 9 disabled (default)
	close	IRQ channel 9 enabled
Pin 9-10	open	port address 340h (default)
	close	port address 140h
Pin 11-12	open	BIOS disabled
	close	BIOS enabled (default)

				(default)
Pin 13-14	open	open	close	close
Pin 15-16	close	open	open	close
BIOS address	C8000	D8000	CC000	DC000

Software Installation

1. Enhance Performance Driver Installation
   1.1 Insert the driver Diskette "DRIVER & UTILITIES" in the floppy disk drive A or B.
   1.2 Copy file "INIVL300.SYS" to the root directory of the primary hard disk drive (most of time is HDD "C").
   1.3 Add the statement "device=INIVL300.SYS" to the CONFIG.SYS file on the primary hard disk (most of time is HDD "C").

2. Insert the driver Diskette "DRIVER & UTILITIES" in the floppy disk drive A or B to install your IDE device driver. (If you have install IDE peripheral device in your PC system).
   2.1 Type **INSTALL** at the DOS prompt and press **ENTER**.
   2.2 Follow the instructions on screen to install DOS and Windows 3.1's device drivers step by step.

3. Insert the driver Diskette "EZ-SCSI" in the floppy disk drive A or B to install your SCSI device driver. (If you have install SCSI peripheral device in your PC system).
   3.1 Type **INSTALL** at the DOS prompt and press **ENTER**.
   3.2 Follow the simple instructions that appear on the screen to understand how to install in both Windows & DOS O/S. In most cases, you will simply press Enter to accept the defaults suggested by EZ-SCSI.

4. Return to the DOS prompt, reboot your PC so the new configuration can take effect. You can do this by pressing **Ctrl-Alt-Del**.

CAUTION

Static electricity can cause serious damage to the microcircuits that make up the VL-300/310 host adapter. Here are some ways to minimize the possibility of damage to your VL-300/310 host adapter and computer.

1. Touch the exposed metallic surface of your computer before attempting to handle the VL-300/310 adapter.
2. Do not remove the VL-300/310 adapter from the antistatic protective bag until you are ready to install
3. it.
4. Handle the VL-300/310 adapter by the edges only.

   Do not touch the edge connectors or exposed circuitry.

Caution

Do not switch off your PC system power while the hard disk activity LED is active.

Table of Contents

Chapter 1 Introduction

1.1 Introduction

The VL-300 and VL-310 are high performance VESA Local Bus (VL-Bus) Fast SCSI-2/IDE and multi-I/O host adapters. ***Both support up to seven SCSI devices(Fast SCSI-2/SCSI-1 support), two IDE drives, two or four (VL-310) floppy disk drives. The VL-300 provides two serial ports, one parallel port, one game port interface and the VL-310 provides two high speed 16550 serial ports, one bi-directional parallel port with EPP/ECP mode and one game port interface.***

The VL-300/310 host adapter allow you to connect your VESA Local Bus computer to Small Computer System Interface (SCSI) peripherals like hard disks, tape streamer, removable disk, floptical drive, magneto-optical disk, and CD-ROM drives. Besides, the VL-300/310 host adapter also allow you to connect to your VESA Local Bus computer to IDE peripherals like hard disks. The host adapters' high data transfer rates and multitasking capabilities significantly enhance the input/output (I/O) performance of your Local Bus computer system. The VL-300/310 are intelligent hard disk host adapters that equip with both Fast SCSI-2/ SCSI-1 (Small Computer System Interface) and IDE bus to VESA Local Bus interface. Along with on board SCSI, IDE and floppy disk interface that the VL-300/310 also build-in serial port, parallel (printer) port and game port interface.

This user's guide was written with the following assumptions :

- User is already familiar with your IBM PC/compatible and have its User's Manual to operations handy.
- User is familiar with basic DOS commands.
- User has its User's Guide available.

Do not proceed with the installation procedure until you have read this user's manual completely.

1.2 VESA Local Bus (VL-Bus)

Connecting devices to a CPU local bus can dramatically increase the speed of I/O-bound peripherals. The main barrier to this situation has been the lack of an accepted standard for local bus peripherals. The Video Electronics Standard Association (VESA) VL-Bus specification was created to clear this confusion.

VESA Local Bus. An architectural, timing, electrical and physical interface that allows high-speed peripheral devices to interface, either directly or indirectly, to the local bus of a host CPU. Cached systems can be interfaced indirectly to the host CPU through the cache controller.

The system board's VL-Bus connector type is a standard 16-bit Micro Channel type connector. The VL-Bus connector is located inline with a system board's I/O bus connector. This layout allows full use of all system I/O bus slots if a VL-Bus board is not occupying a slot. The VL-Bus clock operates at the same frequency and in phase with the CPU clock.

However, electrical characteristics of the physical VL-Bus connector limit the speed of a VL-Bus device operating across the connector to 40MHz.

1.3 ASPI Software for SCSI Device

You can use Adaptecs' ASPI v3.X or more (Advanced SCSI Programming Interface) software to enhance the performance of your VL-300/310 host adapter. ASPI software allows you to use different kinds of SCSI devices (disk drives, tape drives, CD-ROM drives, and so on) with the host adapter.

It is possible to use the VL-300/310 host adapter without installing ASPI software. You can use the host adapter without this software under following circumstances:

1. You do not plan to use an operating system other than DOS.

2. You do not plan to use a SCSI device other than hard disk.

3. The total number of disk drives installed on your system (standard and SCSI) does not exceed two.

Under all other circumstances you must install the appropriate software for your operating system.

If you are going to use the host adapter without ASPI software, you must set the SCSI IDs of your disk drives to 0 or 1. If you want to boot from the SCSI drive, its SCSI ID must be 0. If you have both a non-SCSI drive and SCSI drive that installed on your system at same time, you should set the SCSI drive's ID to 0.

1.4 Features

1. VESA Local Bus operation up to 50MHz.
2. On board internal and external SCSI connectors. Support SCSI-1 & Fast SCSI-2 SCSI device. Support up to seven SCSI devices.
3. On board IDE interface that support up to two IDE devices.
4. On board two (VL-300) or four (VL-310) floppy disk drive interface.
5. On board two serial ports, one parallel (printer) port interface.
6. On board two high speed 16550 serial ports, one bi-directional parallel (printer) with EPP/ECP mode (for VL-310 Host Adapter).
7. On board game port interface.
8. 32KBytes SCSI/IDE BIOS.
9. Automatic Sector Read Ahead Access.
10. 10 MByte/sec synchronous Fast SCSI-2 data transfer.
11. 5 MByte/sec asynchronous Fast SCSI-2 data transfer.
12. 128 byte internal FIFO for SCSI interface.
13. 32-bit double-word PIO (Programmed I/O) transfer.
14. Adaptec AHA 1522 series compatible.

1.5 Specification

Bus Interface:	VL-Bus
Peripheral Interface:	Internal SCSI (connector) X 1 External SCSI (connector) X 1 IDE Interface
SCSI Connector:	
Internal SCSI	Two 50 pins, flat cable
External SCSI	50 pins, centronics or D-SUB type (optional kits, please refer Appendix E for their diagram)
Max. IDE Devices:	2
Max. SCSI Devices:	7
Max. Floppy Drives:	2 (360KB/720KB/1.2MB & 1.44MB, for VL-300) 4 (360KB/720KB/1.2MB/1.44MB & 2.88MB, for VL-310)
Serial Ports:	2
Parallel Port:	1
Hi-speed 16550 serial port:	2 (for VL-310)
Bi-directional Parallel Port:	1 (with EPP/ECP mode, for VL-310)
Game Port:	1
SCSI Transfer Rate:	10 MBytes/sec (SYN) 5 MBytes/sec (ASYN)
IDE Transfer Rate:	5 MBytes/sec
Dimension:	4.2"(H) X 9.7"(L)
Operating Temp.:	0 - 55 °C
Relative Humidity:	10 - 95%, non-condensing

Chapter 2 Jumpers Setting

2.1 Package Contents

Make sure the VL-300/310 that you purchased contains the following items:

1. VL-300 or VL-310 host adapter board.
2. Two Software diskettes which contains EZ-SCSI for DOS operating systems, Novell 2.x, 3.x and 4.x device drivers (SCSI) and IDE installation program.
3. VL-300/310 Host Adapter User Manual (this manual).
4. SCSI device ribbon cable.
5. IDE device ribbon cable.
6. Floppy disk drive ribbon cable.
7. Serial port and game port cable.
8. SCSI external ribbon cable to connect external device (optional).

2.2 The Host Adapter Diagram

Following are both jumper diagram of VL-300 and VL-310 to describe each jumper's location.

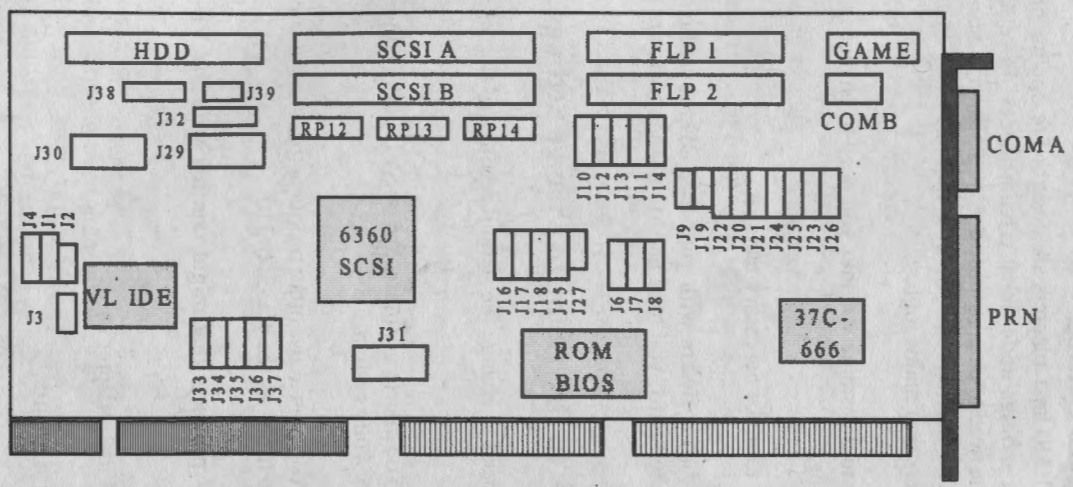
VL-300 Connector Definition

CN1	IDE Hard Disk	CN5	COM A/(COM 1)
CN2	Floppy Disk Drive	CN6	Parallel (Printer) Port
CN3	Game Port	CN7	SCSI A Interface (Internal)
CN4	COM B/(COM 2)	CN8	SCSI B Interface (External)

VL-310 Connector Definition

HDD	IDE Hard Disk Drive Connector
FLP1&2	Floppy Disk Drive Connector
GAME	Game Port Connector
COMA	COM A/(COM 1) Connector
COMB	COM B/(COM 2) Connector
PRN	Parallel (Printer) Port Connector
SCSI A	SCSI Interface Connector (Internal)
SCSI B	SCSI Interface Connector (External)

VL-300 Host Adapter



VL-310 Host Adapter

2.3 Jumpers Setting

The VL-300/310 host adapters are designed to operate properly at their default settings under most circumstances. In certain cases, however, you need to change these default settings to ensure proper operation. This section tells you how to make these changes. The chapter covers two major topics:

how to determine whether you need to change any default settings

how to make necessary changes

If you use ASPI software with your host adapter and change any settings on the board, you may need to change software as well.

2.3.1 How to Determine to Change Settings

You might need to change the default settings of the VL-300/310 if

1. You plan to use more than one VL-300/310 host adapter in your system.
2. You plan to use other products that use the same default settings as the VL-300/310.

Examples of products that might conflict with the VL-300/310 include

1. Video adapter cards
2. LAN cards
3. Another host adapter such as VL-300/310

There are five potential areas of conflict:

1. The SCSI port setting.
2. The IDE port setting.
3. The interrupt request (IRQ) channel.
4. The host adapter BIOS.
5. The multi I/O port setting.

The possible problems are discussed in the following sections. If you do need to change settings, refer to the sections later in this chapter for instruction. Be aware that if you change any settings, you must use the ASPI software appropriate for your operating system.

The SCSI I/O port address range

The SCSI port address ranges used by some products, such as video and tape-drive adapters, overlap the primary port address range of VL-300/310 -- 340h-35Eh. (The h indicates that these are hexadecimal numbers.) If you plan to use a product that must use the same port address range as the host adapter and its software, you need to change the VL-300/310 to its secondary range of 140h-15Eh. If you have installed a second VL-300/310, you must change the port address range of one of the adapters.

The VL-300/310 BIOS operates only if the VL-300/310 uses its primary port address range(340h-35Eh). If you change to the secondary port address range(140h-15Eh), you must also disable the host adapter BIOS.

The IDE I/O port address range

The IDE port address ranges used by some products, such as video and tape-drive adapters, overlap the primary port address range of VL-300/310 -- 0B4h, 0B8h, 0BCh. If you plan to use a product that must use the same port address range as the host adapter and its software, you need to change the VL-300/310 to its secondary range of 034h, 038h, 03Ch.

The IRQ channel

By default, the VL-300/310 board uses IRQ channel 11. You need to change this if your system has other products using channel 11. If you must change the IRQ channel, choose channel 9,10 or 12. Select a channel that is not used by another product. Consult the documentation for each product to determine which IRQ channel it uses. We do not recommend using channel 9 with Windows or OS/2.

The VL-300/310 BIOS

If you are using two VL-300/310 host adapters, only one can use its BIOS. You must disable the BIOS of the other. If you use the VL-300/310 in combination with a different host adapter (such as the Adaptec AHA-1540/1542), you also need to disable the VL-300/310 BIOS. In both cases, you need to use ASPI software to access the SCSI devices connected to the VL-300/310.

The Floppy Drive Controller

If you are using two VL-300/310 host adapters, only one can use its floppy disk controller. You must disable the floppy controller of the other.

2.3.2 How to Change Settings with Jumpers

The following sections tell you how to change the VL-300/310 jumpers to make changes to the host adapter settings. You will learn which jumper settings you need to change to avoid the conflicts discussed previously. The VL-300/310 can connect both IDE and SCSI storage and peripheral device at the same time. Therefore, user should carefully read this manual to make necessary jumper setting for your IDE and SCSI device. Next section, Jumper List, lists all the jumper settings you can change.

Confirm that all jumpers are in the proper positions before installing the card. These components are clearly marked in white ink on the component side of the card.

2.3.3 IDE Jumper Setting

J1	2-3	(factory fixed)
J2	close	(factory fixed)
J3	close	(factory fixed)

IDE Port Setting

	J4
IDE port enabled	1-2 (default)
IDE port disabled	2-3

A. VL-300

Interface Selecting

	J5	J6
386SX mode	1-2	1-2
386DX mode	1-2	2-3
486 mode	2-3	1-2 (default)
Factory reserved	2-3	2-3

IDE Controller 32-bit Configuration Port Setting

	J7
034H, 038H & 03CH (for Adaptec 25VL01 or APPIAN ADI2 A)	1-2
AD4H, AD8H & ADCH (for APPIAN ADI2 B)	
0B4H, 0B8H & 0BCH	2-3 (default)

J8	2-3	(factory fixed)		
J9	1-2	(factory fixed)		

IDE Hard Disk Drive LED Connector

J10	pin 1	Vcc	pin 2	Signal
	pin 3	Signal	pin 4	Vcc

IDE Device Control

	J11
Support one IDE drive	close
Support two IDE drive	open (default)

B. VL-310

Interface Selecting

	J33	J34
386SX mode	1-2	1-2
386DX mode	1-2	2-3
486 mode	2-3	1-2 (default)
Factory reserved	2-3	2-3

IDE Controller 32-bit Configuration Port Setting

	J35
034H, 038H & 03CH (for Adaptec 25VL01 or APPIAN ADI2 A)	1-2
AD4H, AD8H & ADCH (for APPIAN ADI2 B)	
0B4H, 0B8H & 0BCH	2-3 (default)

J36	2-3	(factory fixed)
J37	1-2	(factory fixed)

IDE Hard Disk Drive LED Connector

J38	pin 1	Vcc	pin 2	Signal
	pin 3	Signal	pin 4	Vcc

IDE Device Control

	J39
Support one IDE drive	close
Support two IDE drive	open (default)

J8	close	(factory fixed)
J9	open	(factory fixed)

2.3.4 Multi I/O Jumper Setting

A. VL-300

JP12	2-3	(factory fixed)
JP13	2-3	(factory fixed)

Printer(Parallel) Port

	JP11
Enabled	1-2 (default)
Disabled	2-3

Floppy Disk Port

	JP14
Floppy port enabled	1-2 (default)
Floppy port disabled	2-3

Printer(Parallel) Port Address Selection

	JP15
LPT1(378H)	1-2 (default)
LPT2(278H)	2-3

Game Port

	JP16
Game port enabled	1-2 (default)
Game port disabled	2-3

B. VL-310

J13	2-3	(factory fixed)
J16	2-3	(factory fixed)

Floppy Disk Port

	J12
Floppy port enabled	1-2 (default)
Floppy port disabled	2-3

Floppy Address Selection

	J17
Secondary address 370h	1-2
Primary address 3F0h	2-3 (default)

Game Port

	J27
Game port enabled	1-2 (default)
Game port disabled	2-3

Serial Port Setting

A. VL-300

COMA (CN5)	COMB (CN4)	JP17	JP18	JP19	JP20
COM1	COM2 (default)	1-2	1-2	1-2	1-2
COM1	COM4	1-2	1-2	1-2	2-3
COM1	Disabled	1-2	1-2	2-3	----
COM3	COM2	1-2	2-3	1-2	1-2
COM3	COM4	1-2	2-3	1-2	2-3
COM3	Disabled	1-2	2-3	2-3	----
Disabled	COM2	2-3	----	1-2	1-2
Disabled	COM4	2-3	----	1-2	2-3
Disabled	Disabled	2-3	----	2-3	----

B. VL-310

COMA	COMB	J10	J10	J11	J11
COM1	COM2 (default)	1-3	2-4	1-3	2-4
COM1	COM4	1-3	2-4	3-5	2-4
COM1	Disabled	1-3	2-4	3-5	4-6
COM2	COM1	1-3	4-6	1-3	4-6
COM2	COM4	1-3	4-6	3-5	2-4
COM2	Disabled	1-3	4-6	3-5	4-6
COM3	COM1	3-5	2-4	1-3	4-6
COM3	COM2	3-5	2-4	1-3	2-4
COM3	COM4	3-5	2-4	3-5	2-4
COM3	Disabled	3-5	2-4	3-5	4-6
Disabled	COM1	3-5	4-6	1-3	4-6
Disabled	COM2	3-5	4-6	1-3	2-4
Disabled	COM4	3-5	4-6	3-5	2-4
Disabled	Disabled	3-5	4-6	3-5	4-6

Remarks:
The specify I/O address list in below.

COM1 address -- 3F8H
COM2 address -- 2F8H
COM3 address -- 3E8H
COM4 address -- 2E8H

2.3.5 Parallel Port Jumper Setting (VL-310 only)

Parallel Port Interrupt Selection

	J6
IRQ 7	1-2 (default)
IRQ 5	2-3

Parallel Port I/O Address Selection

	J14
LPT1 (378h, IRQ7)	1-3 4-6 (default)
LPT2 (278h, IRQ7)	1-3 2-4
LPT3 (3BCh, IRQ7)	3-5 2-4
Disabled	3-5 4-6

Parallel Port DMA Acknowledge Selection

	J24
DACK 3	1-2 (default)
DACK 1	2-3

Parallel Port DMA Request Selection

	J25
DRQ 3	1-2 (default)
DRQ 1	2-3

Parallel Port ECP & EPP Mode Selection

	J5	J7
ECP compliance test	close	close
Normal operation	open	open (default)

	J19
MEDIA ID enabled	close
MEDIA ID disabled	open (default)

	J20
MEDIA DET OPT	1-2
Data rate OPT	2-3 (default)

	J21	J22
MEDIA ID DR0 & DR1	1-2	1-2
Floppies 3rd FDD driver support	2-3	2-3 (default)

	J23	J26
ECP mode (2 FDD driver support)	1-2	1-2
Floppies 4th FDD driver support	2-3	2-3 (default)

	J15	J18
SPP mode (4 FDD driver support)	2-3	2-3 (default)
EPP mode (4 FDD driver support)	1-2	2-3
ECP mode (2 FDD driver support)	2-3	1-2
EPP&ECP mode (2 FDD driver support)	1-2	1-2

Remarks:
EPP = Enhanced Parallel Port
ECP = Extended Capabilities Port
SPP = Standard Parallel Port

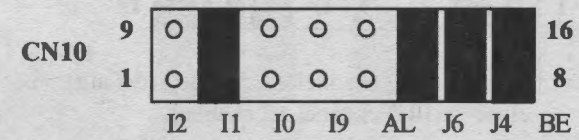
2.3.6 SCSI Jumper Setting

SCSI Device LED Connector

JP25(VL-300)/	pin 1	Vcc
J32(VL-310)	pin 2	Signal
	pin 3	Signal
	pin 4	Vcc

SCSI IRQ Channel, Port Address And BIOS Selection

A. VL-300

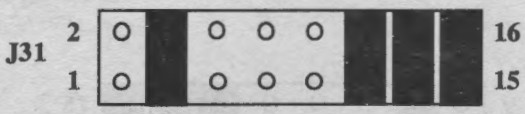


I2(pin 1-9)	open	IRQ channel 12 disabled (default)
	close	IRQ channel 12 enabled
I1(pin 2-10)	open	IRQ channel 11 disabled
	close	IRQ channel 11 enabled (default)
I0(pin 3-11)	open	IRQ channel 10 disabled (default)
	close	IRQ channel 10 enabled
I9(pin 4-12)	open	IRQ channel 9 disabled (default)
	close	IRQ channel 9 enabled
AL(pin 5-13)	open	port address 340h (default)
	close	port address 140h

				(default)
J6(pin 6-14)	open	open	close	close
J4(pin 7-15)	close	open	open	close
BIOS address	C8000	D8000	CC000	DC000

BE(pin 8-16)	open	BIOS disabled
	close	BIOS enabled (default)

B. VL-310

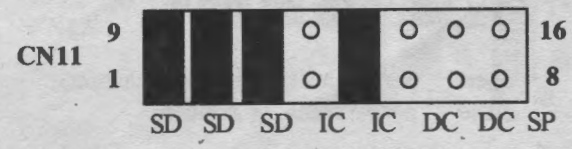


Pin 1-2	open	IRQ channel 12 disabled (default)
	close	IRQ channel 12 enabled
Pin 3-4	open	IRQ channel 11 disabled
	close	IRQ channel 11 enabled (default)
Pin 5-6	open	IRQ channel 10 disabled (default)
	close	IRQ channel 10 enabled
Pin 7-8	open	IRQ channel 9 disabled (default)
	close	IRQ channel 9 enabled
Pin 9-10	open	port address 340h (default)
	close	port address 140h
Pin 11-12	open	BIOS disabled
	close	BIOS enabled (default)

				(default)
Pin 13-14	open	open	close	close
Pin 15-16	close	open	open	close
BIOS address	C8000	D8000	CC000	DC000

SCSI I/D and Channel Selection

A. VL-300



								(default)
SD(pin 1-9)	open	close	open	close	open	close	open	close
SD(pin 2-10)	open	open	close	close	open	open	close	close
SD(pin 3-11)	open	open	open	open	close	close	close	close
SCSI ID	0	1	2	3	4	5	6	7

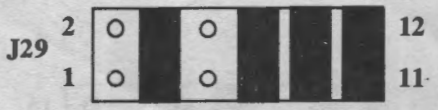
			(default)	
IC(pin 4-12)	open	close	open	close
IC(pin 5-13)	open	open	close	close
IRQ channel	IRQ9	IRQ10	IRQ11	IRQ12

DC(pin 6-14)	open	factory reserved
DC(pin 7-15)	open	factory reserved

SP(pin 8-16)	open	parity checking enabled (default)
	close	parity checking disabled

Remark:
SD(pin 1-9) =SCSI ID BIT 0
SD(pin 2-10) =SCSI ID BIT 1
SD(pin 3-11) =SCSI ID BIT 2

B. VL-310



Pin 1-2	open	parity checking enabled (default)
	close	parity checking disabled

			(default)	
Pin 3-4	open	open	close	close
Pin 5-6	open	close	open	close
IRQ channel	IRQ9	IRQ10	IRQ11	IRQ12

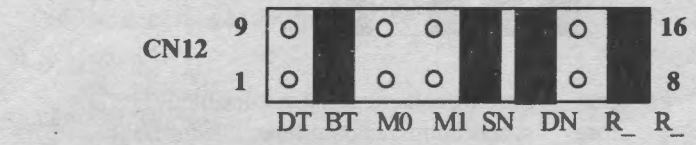
								(default)
Pin 7-8	open	open	open	open	close	close	close	close
Pin 9-10	open	open	close	close	open	open	close	close
Pin 11-12	open	close	open	close	open	close	open	close
SCSI ID	0	1	2	3	4	5	6	7

Remark:

Pin 7-8	=SCSI ID BIT 2
Pin 9-10	=SCSI ID BIT 1
Pin 11-12	=SCSI ID BIT 0

SCSI Data Transfer And Advanced 6360 Features

A. VL-300



DT(pin 1-9)	open	factory reserved
BT(pin 2-10)	open	boot operation disabled
	close	boot operation enabled (default)
M0(pin 3-11)	open	factory reserved
M1(pin 4-12)	open	factory reserved
SN(pin 5-13)	open	synchronous negotiation disabled
	close	synchronous negotiation enabled(default)
DN(pin 6-14)	open	disconnection disabled
	close	disconnection enabled (default)
R_(pin 7-15)	open	BIOS support floptical disabled(default)
	close	BIOS support floptical enabled
R_(pin 8-16)	open	6360 enhanced features disabled
	close	6360 enhanced features enabled(default)

Remark:

The 6360 enhanced features include.

1. Up to 10.0 MB/sec Fast SCSI transfer rate.
2. Support for 20M Insite Floptical Drives.
3. Greater than 1 Gigabyte drive capacity support. However this is not necessary when working with operating systems such as Novell or UNIX because they can already drives greater than 1 GByte. In these situations this option should be turned off (disabled) to prevent compatibility problems.

B. VL-310

Pin 1-2	open	synchronous negotiation disabled
	close	synchronous negotiation enabled(default)
Pin 3-4	open	disconnection disabled
	close	disconnection enabled (default)
Pin 5-6	open	6360 enhanced features disabled
	close	6360 enhanced features enabled(default)
Pin 7-8	open	BIOS support floptical disabled(default)
	close	BIOS support floptical enabled
Pin 9-10	open	boot operation disabled
	close	boot operation enabled (default)

Remark:

The 6360 enhanced features include.

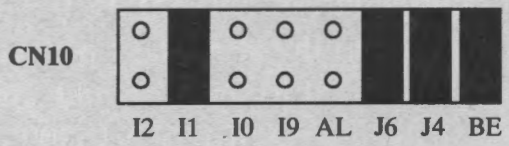
1. Up to 10.0 MB/sec Fast SCSI transfer rate.
2. Support for 20M Insite Floptical Drives.
3. Greater than 1 Gigabyte drive capacity support. However this is not necessary when working with operating systems such as Novell or UNIX because they can already drives greater than 1 GByte. In these situations this option should be turned off (disabled) to prevent compatibility problems.

2.3.7 Changing the SCSI I/O Port Address Range

The following figure shows the jumper setting for the primary port address range (the default 340h-35Eh for the VL-300/310):

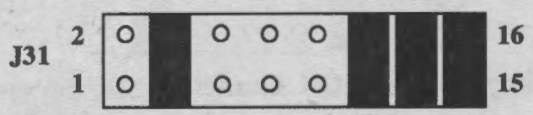
A. VL-300

Pin pair AL : Open : 340h-35Eh (default)
Close : 140h-15Eh



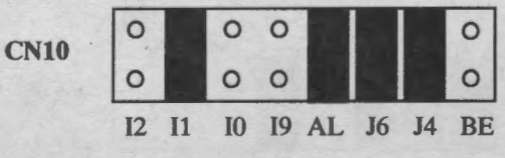
B. VL-310

Pin 9-10 : Open : 340h-35Eh (default)
Close : 140h-15Eh

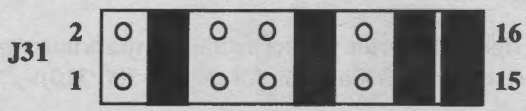


The following figure shows the jumper setting for the secondary port address range (140h-15Eh for the VL-300/310). To change the I/O port address from its primary range to its secondary range, place a jumper on pin pair AL in jumper block CN10 of VL-300 or pin 9-10 in jumper block J31 of VL-310.

A. VL-300



B. VL-310



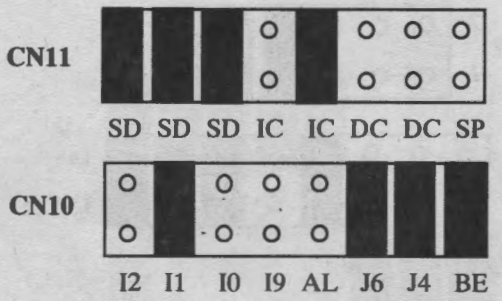
The BIOS only operates if the VL-300/310 is set to the port address 340-35Eh. If you change the setting to the secondary port address range (140h-15Eh), you should also disable the BIOS (pin pair BE of VL-300 or pin 11-12 of VL-310 should be changed to open position) operating at the same time.

2.3.8 Changing the IRQ Channel

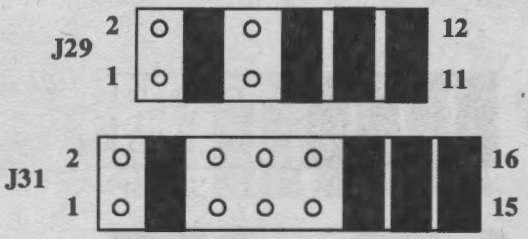
The VL-300 IRQ channel setting is determined by the pin pairs marked IC in jumper block CN11 and pin apirs I0, I1, I2 and I9 in jumper block CN10. The VL-310 IRQ channel setting is determined by the pin 3-6 in jumper block J29 and pin 1-8 in jumper block J31.

The following figures shows the jumper settings for IRQ channel 11(the default):

A. VL-300

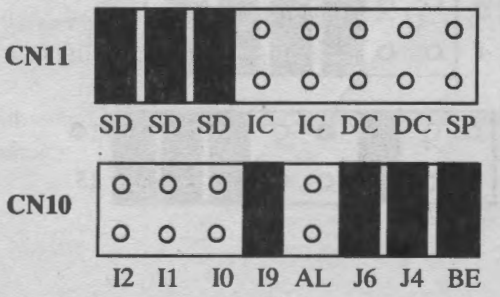


B. VL-310

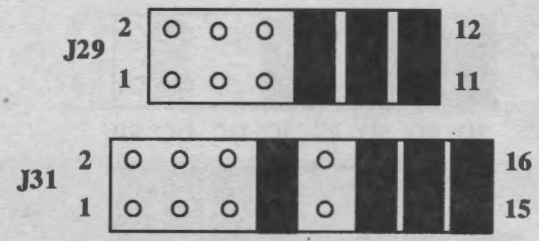


To change the VL-300/310 IRQ channel, choose a new channel (9,10 or 12) and then reset the jumpers according to the appropriate illustration. The following figure shows the settings for IRQ channel 9. (IRQ channel 9 is not recommanded when running Windows or OS/2).

A. VL-300

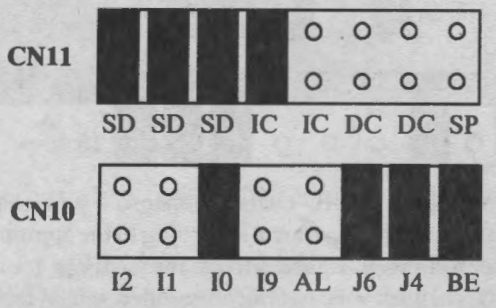


B. VL-310

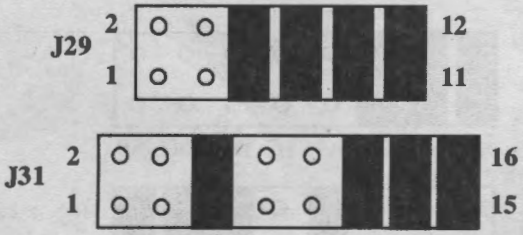


The following figure shows the jumper settings for IRQ channel 10:

A. VL-300

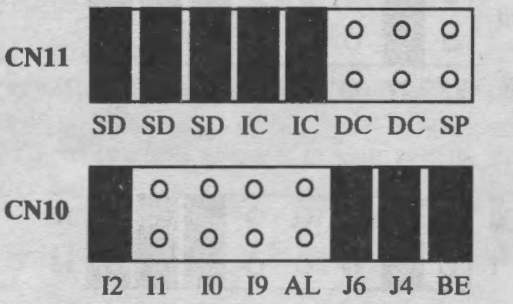


B. VL-310

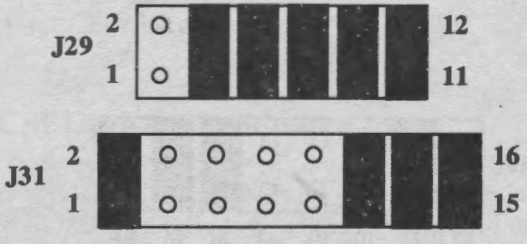


The following figure shows the jumper settings for IRQ channel 12:

A. VL-300



B. VL-310

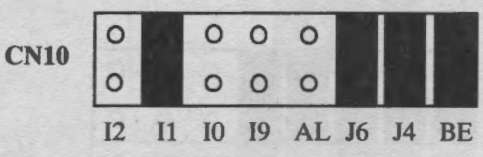


2.3.9 Disabling the VL-300/310 BIOS

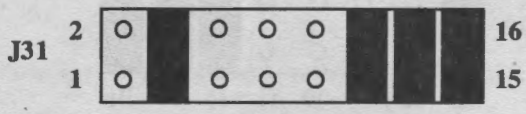
To disable the VL-300/310 BIOS, remove the jumper on pin pair BE on jumper block CN10 of VL-300 or pin 11-12 on jumper block J31 of VL-310.

The following figure shows the jumper setting that enables the BIOS (the default):

A. VL-300

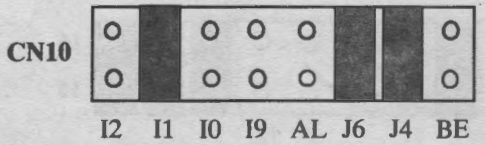


B. VL-310

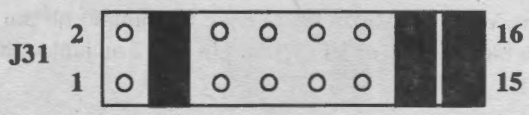


The following figure shows the jumper setting that disables the BIOS:

A. VL-300



B. VL-310



Chapter 3 Installing the Host Adapter

3.1 Introduction

The VL-300/310 will be easly to install into VESA Local Bus(VL-Bus) computers. This chapter gives you the information you need to install one or two host adapters in your system. The chapter covers three major topics:

1. How to terminate your SCSI bus.
2. How to decide whether you need to change the jumper settings of the host adapter.
3. How to install the host adapter or adapters.

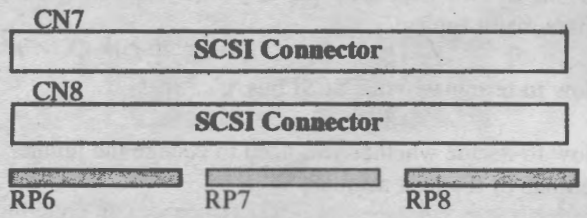
3.2 SCSI Devices Terminated

For your system to operate properly, you must ***terminate*** your SCSI bus correctly. The SCSI devices at the physical beginning and end of the SCSI bus must have terminators installed. All other SCSI devices on the SCSI bus must have their terminators removed.

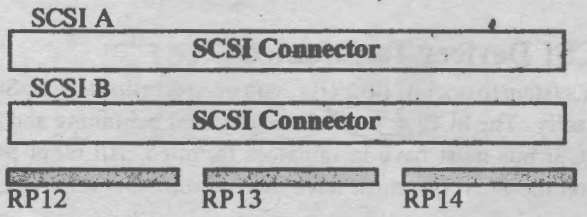
The VL-300/310 is a SCSI(also IDE) device. If you are using only one of its SCSI connectors, the host adapter is at one end of the SCSI bus. Its terminators should remain installed. If you connect devices to both the **external and internal** connectors on the host adapter, the host adapter is not at the end of the SCSI bus. So its terminators (RP6, RP7 & RP8 of VL-300 or RP12, RP13 & RP14 of VL-310) should be removed. Terminators should be installed on the SCSI devices on both end of the SCSI bus.

On the VL-300/310 host adapters, terminators are single in-line package (SIP) resistors mounted on the board. Terminators on SCSI devices can take several forms. They can be SIP or dual in-line package (DIP) resistors. Terminators on SCSI devices can also be set with switches. Consult the documentation that came with your SCSI device to find out how to set its terminators.

VL-300 SCSI Device Terminators (RP6, RP7 and RP8)



VL-310 SCSI Device Terminators (RP12, RP13 and RP14)



3.3 Change the Default Settings

The VL-300/310 is set up at the factory to operate properly under most circumstances. You need to make changes to the default settings of the board if either of the following is true:

1. You plan to use more than one VL-300/310 host adapter in your system.

2. You plan to use other products such as video adapter cards or other host adapters, that use the same default setting as VL-300/310.

If you think you might need to change any default setting on the VL-300/310, see Chapter 2 in this manual before proceeding. Chapter 2 gives you all necessary information about the settings that you can change, why you might need to change them, and how to make the changes.

3.4 Preparing Before Installation

The following sections tell you how to prepare before install your VL-300/310 host adapter. Be sure that the VL-300/310 host adapter settings are appropriate for your system before you proceed.

What you need to get started

1. a 50-pin SCSI cable to connect an internal device to the VL-300/310 (if applicable)
2. a 50-pin SCSI cable with a female SCSI connector(optional kits, please see Appendix E for different type) to connect an external device to the VL-300/310 (if applicable)
3. a 40-pin cable to connect the IDE disk drive to the VL-300/310 (if applicable)
4. a 34-pin cable to connect the floppy disk drive to the VL-300/310 (if applicable)
5. a game port cable connect the joy stick to the VL-300/310 (if applicable)
6. a serial port cable connect the peripheral (if applicable)
7. a medium-size, flat-blade screwdriver
8. a medium-size, Philips screwdriver

Preparing the computer and host adapter

Before you can install the VL-300/310 board, you must first prepare your computer by opening its cover and finding an unused VESA Local Bus slot. You must also prepare the VL-300/310 host adapter for installation.

To prepare the computer

1. Turn off the power of your computer and its external equipment. Unplug the computer and its external equipment.

2. Remove the top cover of your computer case to expose the expansion slots. On most of computer system, you can use a medium size, flat-blade screwdriver to remove the screws that secure the cover.

3. Locate an unused VESA Local Bus expansion slot in your system. Remove the slot cover from the back of the computer. Set aside the screw that you removed.

Next, you need to prepare the VL-300/310 host adapter for installation.

To prepare the VL-300/310 host adapter

1. Removed the VL-300/310 from its antistatic bag.

Caution

Like all electronic components, the VL-300/310 is sensitive to static electricity. To avoid possible damage to the host adapter, you should discharge any static electricity before handling the board. You can do this by touching a metal table edge or the frame of your computer system.

2. If you plan to use an internal SCSI device, attach a 50-pin ribbon cable to the internal pin connector (SCSI A) on the board.

   Line up pin 1 on the cable connector, usually marked with a red strip, with pin 1 on the board, located on the left side of the connector.

3. If you plan to use an IDE hard disk drive, attach a 40-pin ribbon cable to the internal pin connector (CN1 or HDD) on the board.

   Line up pin 1 on the cable connector, usually marked with a red strip, with pin 1 on the board, located on the left side of the connector.

4. If you want to use a floppy disk drive, attach the 34-pin ribbon cable to the floppy drive connector (CN2 or FLP1) on the board.

   If you want to use three or four floppy disk drive on VL-310, attach the 34-pin ribbon cable to the floppy drive connector (FLP2) on the board.

   Line up pin 1 on the cable connector, usually marked with a red strip, with pin 1 on the board, located on the down side of the connector.

5. If you plan to install both external and internal SCSI device, remove terminators RP6, RP7 and RP8 from VL-300 or RP12, RP13 and RP14 from VL-310. However, if you plan to use either external or internal SCSI devices only. You should leave the terminators in place. In this case, you still can connect up to seven SCSI device at one time, it does not matter are internal SCSI device or external SCSI device. To remove a terminator, gently pull it up from board. To install a terminator, gently push it into place on the board. When installing, line up pin 1 of the terminator with pin 1 of the terminator socket, located on the left side of the connector. Pin 1 of the terminator is indicated by a white color dot or stripe near the end of the terminator.

3.5 Installing the Host Adapter

Now that you have prepared both the board and the computer, you can install the VL-300/310 into your computer.

1. Slide the external connector of the VL-300/310 through the hole in the back of the computer that corresponds to the unused VL slot.

2. Press the edge connectors of the VL-300/310 into the slot. It is easier to fit the edge connectors into the slot if you insert one conner first and then press entire edge into place.

3. Secure the VL-300/310 external connector to the computer frame. Use the screws that you removed with the expansion slot cover.

4. If you are going to use an internal SCSI device, verify cable (pin1) orientation and attach the free end of the 50-pin ribbon cable to the device.

5. If you are going to use an IDE hard disk drive, verify cable (pin1) orientation and attach the free end of the 40-pin ribbon cable to the IDE hard disk drive.

6. If you are installing the VL-300/310 and want to use it with the floppy disk drive, peripheral with serial port interface, peripheral with parallel port interface or joy stick, connect the free end of the necessary cable to these peripherals.

   If you are installing the VL-310 and want to use it with three or four floppy disk drive, connect the free end of the second flat floppy cable to these peripherals. Besides, please refer Chapter 4 for 4 floppy driver installation.

7. If you are going to use an external SCSI device, connect it to the VL-300/310 using a 50-pin SCSI cable with a 50 pin female centronic or D-SUB connector (optional kits, please see Appendix E for different type). Plug the cable connector into the external connector of the VL-300/310 and secure it with the bail clips on the external connector.

8. Reposition the computer cover. Make sure that the internal drive and floppy drive cables fit comfortably inside the computer case when you reposition the cover. Rearrange the cables if necessary.

9. Turn on the power to your computer and its peripherals. The VL-300/310 can cause the system to display a variety of startup messages. These messages are explained in Chapter 2 and Appendix D.

3.6 Installing Two Host Adapters

You can install as many as two VL-300/310 host adapters in your VESA Local Bus system. Installing two host adapters allow you to use more SCSI devices. If you do install two host adapters, you must use the ASPI software appropriate for your operating system.

The installation of each host adapter is the same as the installation of a single host adapter. Follow the instruction in section 3.4 "Preparing Before Installation" and section 3.5 "Installing the Host Adapter" to install each host adapter.

If you install two host adapter, each must be configured so that it does not conflict with the other. You need to change some of the default settings of one or both host adapter.

The following is a short overview of the hardware issues you need to consider when you use two host adapters:

1. Each host adapter must use a different interrupt request (IRQ) channel.

2. Only one host adapter can have BIOS enabled. The BIOS on the other host adapter must be disabled.

3. Each host adapter must use a different port address range.

4. If you use two VL-300/310 host adapters, only one can have its floppy drive controller enabled. The floppy drive controller on the other VL-300/310 must be disabled.

5. If you plan to install two host adapter , see Chapter 2 to learn how to make the necessary changes. You should make all these changes before you install the host adapters.

Chapter 4 IDE Drivers Installation

4.1 Introduction

This chapter contains device driver installation procedures for IDE hard disk drive and a description of the utility programs which include multiple & high capacity floppy disks supporting and testing program for high speed serial port 16550 proving.

4.2 IDE Device Drivers Installation

The VL-300/310 "DRIVER & UTILITIES" diskette contains an "INIVL300.SYS" file to enhance the system's overall performance (both IDE and SCSI application) and two sub-directory. These two sub-directory are NETWARE and UTILITY.

DOS and Windows Drivers Installation

The program named "INSTALL.EXE" in the VL-300/310 "DRIVER & UTILITIES" diskette will install DOS and Windows Ver. 3.X device driver automatically. Please refer the installation instruction below.

1. Insert the VL-300/310 "DRIVER & UTILITIES" diskette into floppy disk drive "A" or floppy disk drive "B".

2. Type **INSTALL** at the DOS prompt and press **ENTER**.

3. Follow the instructions on screen to install the device drivers step by step.

Novell Driver Installation

1. Insert the VL-300/310 "DRIVER & UTILITIES" diskette into floppy disk drive "A" or floppy disk drive "B".

2. Change to drive "A" and \NETWARE sub-directory.

3. Copy the file "IDE.DSK" to the root directory of the server system. When you copy the file "IDE.DSK" to your server system, make sure file "IDE.DSK" and file "SERVER.EXE" remain at the same directory.

4. Re-boot the server system then type **SERVER** at the DOS prompt and press **ENTER**.

5. Type **LOAD IDE.DSK** and press **ENTER**.

4.3 Enhance Performance Driver Installation

The "INIVL300.SYS" device driver use to enhance both the system's IDE and SCSI I/O performance by intelligently managing the interaction between the system and I/O device.

Enhance Performance Driver Installation

1. Insert the VL-300/310 "DRIVER & UTILITIES" diskette into floppy disk drive "A" or "B".

2. Copy file "INIVL300.SYS" to the root directory of the primary hard disk drive (most of time it is hard disk drive "C").

3. Add the statement "device=INIVL300.SYS" to the CONFIG.SYS file on the primary hard disk (most of time it is hard disk drive "C").

4. Power off the computer system and re-boot the system again.

IMPORTANT NOTE

To enhance system's overall performance, system should always has an expanded memory or extended memory management program installed in "CONFIG.SYS" file. The memory management program such as MS-DOS "HIMEM.SYS", "EMM386.EXE", QUARTERDECK "QEMM.SYS" and a lot of famous memory management programs available in the market.

Following are some examples of "CONFIG.SYS".

Example 1

```
device=C:\DOS\HIMEM.SYS
device=C:\INIVL300.SYS
```

Example 2

```
device=C:\Windows\HIMEM.SYS
device=C:\INIVL300.SYS
```

Example 3

```
device=C:\Windows\HIMEM.SYS
device=C:\Windows\EMM386.EXE
device=C:\INIVL300.SYS
```

4.4 Utility Installation

CHKIDE.COM

1. Power on your computer system and boot the computer system from floppy drive "A".

2. Place the VL-300/310 "DRIVER & UTILITIES" diskette into the floppy disk drive "A", and get into UTILITY sub-directory.

3. Type **CHKIDE**, the system will display the native parameters of your IDE hard disk drive, even your system setted as "HARD DISK NOT INSTALLED".

4. Record these parameters on your notebook.

5. Press the reset button on front panel to reset your computer system. Enter the "CMOS SETUP PROGRAM", then according to the parameters on your notebook to set up hard disk drive type.

HDDIAG.COM

1. Place the "DRIVER & UTILITIES" diskette into system's floppy disk drive "A", and get into UTILITY sub-directory.

2. Type **HDDIAG** and press **ENTER** to check the bad tracks or make hard disk drive low-level format.

4.5 Multiple and High Capacity Floppy Drivers Installation

1. Insert the "DRIVER & UTILITIES" diskette into floppy disk drive "A".

2. Change to drive "A" and \UTILITY\4DRIVER sub-directory.

3. Copy the file "SMC661.COM" to the root directory of the server system.

4. Add DOS "DRIVER.SYS" command in the CONFIG.SYS file.
   "DEVICE=C:\DOS\DRIVER.SYS /D:2 /F:*l*"
   "DEVICE=C:\DOS\DRIVER.SYS /D:3 /F:*m*"

5. Add following command in your AUTOEXEC.BAT file.
   "C:\SMC661.COM /C:*n* /D:*o*"

6. Re-boot the system.

Remark:

l, m, n, o parameters setting description

3rd FDD	*l*	*m*	*n*	*o*	4th FDD	*l*	*m*	*n*	*o*
360KB	0		3		360KB	0		3	
720KB	2		7		720KB	2		7	
1.2MB	1		12		1.2MB	1		12	
1.44MB	7		14		1.44MB	7		14	
2.88MB	9		2		2.88MB	9		2	

7. Refer following diagram for using the right parameter in the command.

A. Install 4 floppy drivers

CONFIG.SYS
DEVICE=C:\DOS\DRIVER.SYS /D:2/F:*l*
DEVICE=C:\DOS\DRIVER.SYS /D:3/F:*m*

AUTOEXEC.BAT
C:\SMC661.COM /C:*n* /D:*o*

	D=360KB	D=720KB	D=1.2MB	D=1.44MB	D=2.88MB
C=360KB	*l=0,m=0, n=3,o=3*	*l=0,m=2, n=3,o=7*	*l=0,m=1, n=3,o=12*	*l=0,m=7, n=3,o=14*	*l=0,m=9, n=3,o=2*
C=720KB	*l=2,m=0, n=7,o=3*	*l=2,m=2, n=7,o=7*	*l=2,m=1, n=7,o=12*	*l=2,m=7, n=7,o=14*	*l=2,m=9, n=7,o=2*
C=1.2MB	*l=1,m=0, n=12,o=3*	*l=1,m=2, n=12,o=7*	*l=1,m=1, n=12,o=12*	*l=1,m=7, n=12,o=14*	*l=1,m=9, n=12,o=2*
C=1.44MB	*l=7,m=0, n=14,o=3*	*l=7,m=2, n=14,o=7*	*l=7,m=1, n=14,o=12*	*l=7,m=7, n=14,o=14*	*l=7,m=9, n=14,o=2*
C=2.88MB	*l=9,m=0, n=2,o=3*	*l=9,m=2, n=2,o=7*	*l=9,m=1, n=2,o=12*	*l=9,m=7, n=2,o=14*	*l=9,m=9, n=2,o=2*

B. Install 3 floppy drivers

CONFIG.SYS
DEVICE=C:\DOS\DRIVER.SYS /D:2/F:*l*

AUTOEXEC.BAT
C:\SMC661.COM /C:*n*

C=360KB	C=720KB	C=1.2MB	C=1.44MB	C=2.88MB
l=0, n=3	*l=2, n=7*	*l=1, n=12*	*l=7, n=14*	*l=9, n=2*

4.6 High Speed Serial Port Testing and Debuging Program

1. Insert the "DRIVER & UTILITIES" diskette into floppy disk drive "A".

2. Change to drive "A" and \UTILITY\16C550 sub-directory.

3. Type **SMC665** at the DOS prompt and press **ENTER**. Follow the descriptions of main menu on screen to choose the various test selections.

4. Type **665** at the DOS prompt and press **ENTER**. Follow the descriptions of main menu on screen to change the register setting.

Chapter 5 EZ-SCSI Installation

This chapter tells you how to install Adaptec EZ-SCSI ASPI software for the DOS operating system and the VL-300/310 host adapter. The software comprises a DOS manager, a hard disk driver, and a disk partitioning utility.

This chapter covers these major topics:

an overview of the software

how to use the disk partitioning utility

preparing other SCSI devices

understanding and resolving errors

5.1 EZ-SCSI Quick Installation

1. Insert the EX-SCSI v3.x diskettte in a floppy disk drive on your PC.
2. Change to the drive letter where your diskette is inserted (either A or B)
3. Type **INSTALL** to start the *INSTALL* program

Note!!!
Do not use the DOS copy command to copy the files to your PC's fixed disk. The files on the installation diskette are in compressed format and are automatically de-compressed during installation.

4. Follow the instructions on screen to type **SETUP** at the DOS prompt and press **ENTER** to install the device drivers step by step. In more case, you will simply press Enter to accept the defaults suggested by EZ-SCSI.

   Press F1 on any screen to view additional Help Information. Press ESC to exit from a Help screen.

   If your system doesn't install windows O/S, please follow the instruction on screen to install Windows software first or type **DOSINST** at the DOS prompt and press **ENTER**.

5. When the *INSTALL* program is finished and you return to the DOS prompt, reboot your PC so the new configuration can take effect. You can do this by pressing **Ctrl-Alt-Del**.

5.2 Software Overview

The major components of the EZ-SCSI software are:

ASPI2DOS (DOS manager)

ASPIDISK (hard disk driver)

AFDISK (partitioning utility)

Each of these programs is discussed separately in the following sections.

5.2.1 The DOS Manager

ASPI2DOS is a program that DOS can load at startup time and then use automatically to communicate with the VL-400 and to access SCSI devices connected to the host adapter. You need to have DOS load ***ASPI2DOS*** in the following situations:

You change any default host adapter jumper settings.

More than two hard disks are installed in your system.

You have a SCSI drives with a SCSI ID other than 0 or 1.

You use SCSI devices other than a fixed hard disk, such as removable media drive, CD-ROM drive, tape drive, printer, plotter, and so on.

You install more than one host adapter.

You can use ***ASPI2DOS*** to improve your system's performance even if none of these condition apply. Using ***ASPI2DOS*** results in faster I/O operations.

5.2.2 The Hard Disk Driver

ASPIDISK is a program that DOS can load at startup time and then use automatically to control hard disks. In order to use ***ASPIDISK***, your system must be running DOS 3.3 or later.

You need to have DOS use ***ASPIDISK*** under any of the following circumstances:

The host adapter BIOS is disabled.

You have more than two hard disks.

You have a SCSI drive with a SCSI ID other than 0 or 1.

You have a disk partitioned with ***AFDISK*** or ***FDISK***.

ASPIDISK allocates logical drive names to the SCSI hard disks and partitions installed on your system. If you have non-SCSI disks installed, ***ASPIDISK*** allocates logical drive names that follow those of the non-SCSI drives. For instance if you have two non-SCSI drives (C and D), ***ASPIDISK*** begins with drive E.(Refer appendix E for additional software switch setting).

5.2.3 The Disk Partitioning Utility

Before you can use a hard disk, you must partition it. AFDISK is a partitioning utility that you use to partition SCSI disks. You can use AFDISK to create or delete DOS partitions, and to delete non-DOS partitions.

You should partition your SCSI disks with AFDISK if you have a total of three or more disks (SCSI and non-SCSI). If you have a total of one or two disks, you can partition your SCSI disks with the DOS ***FDISK*** utility. If you later add more SCSI disks, you will not have to repartition any SCSI disks that you originally partitioned with ***FDISK***.

If your system tries to load ASPIDISK before you have partitioned a disk that should be partitioned with ***AFDISK***, ***ASPIDISK*** will not be loaded successfully.

Preparing CD-ROM Drives

The EZ-SCSI supports data and audio modes for most models of CD-ROM drives. The ***INSTALL*** automatically installs the correct device driver for each kind of CD-ROM drive.

EZ-SCSI supports the High Sierra and ISO-9660 formats for CD-ROMs.

If you are installing a CD-ROM drive, you may need to disable synchronous negotiation on the host adapter. Some CD-ROM drives do nor fully support synchronous negotiation and will not work properly if it is enabled.

If you are installing only the CD-ROM drives and are not installing any SCSI fixed disk drives you can save 30 to 60 seconds of boot time by disabling the host adapter BIOS, which is not needed by CD-ROM drives.

Be sure that the SCSI ID for the CD-ROM is set to 2, 3, 4, 5, 6. SCSI ID 7 is reserved for the host adapter, and the host adapter BIOS assumes that a fixed disk drive is installed at SCSI ID 0 or 1.

Preparing Removable Media Drives

Set magneto-optical drives and other removable disk devices to a SCSI ID of 2, 3, 4, 5, or 6. Do not use SCSI ID 0 or 1 for these devices. If you do, the devices will be controlled by the host adapter BIOS instead of by the ASPI manager, and you may lose data if you remove the media while the power is on. Removable disk devices will be automatically installed under the ASPI disk driver when you run the ***INSTALL*** program.

After you run the ***INSTALL*** Program you can use the EZ-SCSI ***AFDISK*** utility to partition removable media.

The EZ-SCSI supports removable disk media with 512 bytes per sector.

Handling Tape Drives and Other SCSI devices

EZ SCSI does not install tape drives, scanners or Write Once Read Many (WORM) devices. To configure these SCSI devices you must acquired additional third-party drivers which are designed for and are fully compatible with Adaptec 1522 series host adapter boards and software.

5.3 Errors Message

Understanding and Resolving Errors

Message	Meaning
Illegal or no hex digit found in command line /p option	You used an invalid number with /P. Only /P140 and /P340 are valid.

Message	Meaning
Fail to initialize HA, installation failed.	The driver failed to initialize the host adapter. Make sure there are no hardware conflicts with other equipment, the host adapter jumpers are correctly set, and the host adapter is properly installed.
Unable to open ASPI manager!	The System Failed to access the ASPI2DOS software. The software may not be loaded. Check CONFIG.SYS to make sure that ASPIDISK will be loaded after ASPI2DOS and reboot.
Command line argument is incorrect	DOS cannot understand an argument in the CONFIG.SYS command that loads ASPIDISK. Make sure that the command and all its arguments are valid.
ASPI "Host Adapter Inquiry" failed	ASPIDISK failed to issued the ASPI host adapter inquiry command to get information from installed host adapters. Make sure that all SCSI cables are installed correctly and the SCSI bus is terminated correctly.
No Host Adapter exists	ASPIDISK cannot find a host adapter on the system. Make sure that there are no port address conflicts and that the host adapter is correctly installed.

Message	Meaning
ASPI Get Device Type Failed.	ASPIDISK cannot find a host adapter on the system. Make sure that all SCSI cables are properly installed and that the SCSI bus is properly terminated.
Failed to access ASPI Device parameter. SCSI drive either not formatted or bad.	ASPIDISK failed to read the BIOS parameter block of the first SCSI drive that is controlled by the driver. The drive is either unformatted or bad.
Get DOS version failed.	ASPIDISK failed to determine the DOS version.
Invalid DOS version. DOS must be version 3.3 and above.	The current DOS version is older than 3.3. Upgrade to DOS 3.3 or later.
SCSI ID xx -Read Capacity failed	The driver failed to issued the SCSI Read Capacity command on the specified drive. Make sure that all SCSI cables are properly installed and that the SCSI Bus is properly terminated.
Failed to read master boot record	ASPIDISK failed to read the information from the master boot record on the boot drive. The drive is either bad or unpartitioned.
Failed to read boot record	ASPIDISK failed to read the disk parameters. The SCSI drive may be unformatted.

Message	Meaning
Error issuing SCSI inquiry command	ASPIDISK failed to issue the SCSI Inquiry command to check the removable media.
No SCSI drives attached	ASPIDISK cannot find any SCSI attached on the system. Make sure your drives are correctly installed.
Failed to find any SCSI logical drives to support	ASPIDISK cannot find any logical drives. Any drives not controlled by the host adapter BIOS may not have been partitioned.
Warning: Maximum number of logical drives reached. Driver can only support up to 26 logical drives.	There are too many logical drives on the attached SCSI drives. The maximum number allowable under DOS is 26. The data on the uninstalled logical drives is not lost. The data will be available when sufficient logical drives are present.
ASPIDISK.sys is not installed	This message will be shown with the error message listed above to indicate that the loading of the driver has failed.

Chapter 6 Windows NT, OS/2 and UNIX Installation

The SCSI software drivers are embedded within Windows NT and OS/2. Windows NT or OS/2 will determine what is attached to the host adapter (SCSI hard disk drives or/and SCSI CD-ROMs...etc.) and make necessary adjustments to proceed your installation.

The UNIX version 3.2.4, OS/2 version 2.X and Windows NT are operating system kernel support already. Refer to your Windows NT, OS/2 and UNIX installation manual for details.

Appendix A Connector Pins

Internal SCSI connector (SCSI A)

Pin	Signal Name	Pin	Signal Name
1	Ground	2	-DB(0)
3	Ground	4	-DB(1)
5	Ground	6	-DB(2)
7	Ground	8	-DB(3)
9	Ground	10	-DB(4)
11	Ground	12	-DB(5)
13	Ground	14	-DB(6)
15	Ground	16	-DB(7)
17	Ground	18	-DB(P)
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	Open	26	Term Power(Fused)
27	Ground	28	Ground
29	Ground	30	Ground
31	Ground	32	-ATN
33	Ground	34	Ground
35	Ground	36	-BSY
37	Ground	38	-ACK
39	Ground	40	-RST
41	Ground	42	-MSG
43	Ground	44	-SEL
45	Ground	46	-C/D
47	Ground	48	-REQ
49	Ground	50	-I/O

External SCSI connector (SCSI B)

Pin	Signal Name	Pin	Signal Name
1	Ground	26	-DB(0)
2	Ground	27	-DB(1)
3	Ground	28	-DB(2)
4	Ground	29	-DB(3)
5	Ground	30	-DB(4)
6	Ground	31	-DB(5)
7	Ground	32	-DB(6)
8	Ground	33	-DB(7)
9	Ground	34	-DB(P)
10	Ground	35	Ground
11	Ground	36	Ground
12	Ground	37	Ground
13	Open	38	Term Power(Fused)
14	Ground	39	Ground
15	Ground	40	Ground
16	Ground	41	-ATN
17	Ground	42	Ground
18	Ground	43	-BSY
19	Ground	44	-ACK
20	Ground	45	-RST
21	Ground	46	-MSG
22	Ground	47	-SEL
23	Ground	48	-C/D
24	Ground	49	-REQ
25	Ground	50	-I/O

IDE controller connector

Pin	Signal Name	Pin	Signal Name
1	-DRST	2	Ground
3	DD7	4	DD8
5	DD6	6	DD9
7	DD5	8	DD10
9	DD4	10	DD11
11	DD3	12	DD12
13	DD2	14	DD13
15	DD1	16	DD14
17	DD0	18	DD15
19	Ground	20	NC
21	NC	22	Ground
23	-DIOW	24	Ground
25	-DIOR	26	Ground
27	DRDY	28	NC
29	NC	30	Ground
31	DINT	32	-DCS16
33	DA1	34	NC
35	DA0	36	DA2
37	-DCS1	38	-DCS3
39	LED	40	Ground

Floppy disk controller connector

Pin	Signal Name	Pin	Signal Name
1	Ground	2	-REDWC
3	Ground	4	NC
5	Ground	6	NC
7	Ground	8	-INDEX
9	Ground	10	-MOTEA
11	Ground	12	-DRVSB
13	Ground	14	-DRVSA
15	Ground	16	-MOTEB
17	Ground	18	-DIR
19	Ground	20	-STEP
21	Ground	22	-WDATA
23	Ground	24	-WGATE
25	Ground	26	-TK00
27	Ground	28	-WPT
29	Ground	30	-RDATA
31	Ground	32	-SIDE1
33	Ground	34	-DSKCHG

Appendix B Low-Level Formatting

Hard disks and removable media cartridges must be low level formatted before they can be partitioned and high - level formatted. If your dealer has not performed the low - level formatting, you need to do so.

You can use a low level formatting utility provided by the VL-300/ 310 BIOS. Type ***Debug*** at the DOS prompt to invoke this utility. When you see a hyphen, type ***G=DC00:6***. DC00 is the default host adapter BIOS address. If you have changed the BIOS address, use the new address instead.

The system will display a short menu that gives you choices for displaying, selecting, and formatting disks.

When you low - level format a disk, you will be asked for an interleave value. Entering 0 or 1 results in a 1:1 interleave. This is the optimum value for all VESA Local Bus systems. Optimum values depend, however, on the processing speed of the system. There are a number of programs that can help you determine the optimum value for your system.

Reboot your system after you finish low - level formatting. If you are low - level formatting removable cartridges, you don't need to reboot after each cartridge. Low level format all cartridges, then reboot.

Appendix C Software Switch Setting

You probably will not have to change command line setting in your config.sys and autoexec.bat files after you run the EZ-SCSI install program, because EZ-SCSI automatically configures your system for the type of host adapter you have and for the installed SCSI devices. If you do need to change these setting, however, this section contains complete information about all available command line options.

The full syntax of the device=***ASPI2DOS.SYS*** line in your config.sys file is:

```
device=[path]aspi2dos.sys[/Group 1 options][/Group 2 options]
```

You can type command line options in either lowercase or uppercase letters. Each option is preceded by a forward slash and should be separated from other options by at least one blank space.

> ***aspi2dos*** command line options are divided into Group 1 and Group 2
>
> Group 1 options are mandatory for systems whose configuration hardware cannot be read by the VL-300/310
>
> Group 2 options are optional for all systems.

Group 1 command line options

The meaning of each Group 1 option is as follows:

/c and /c-

The /c option prevents SCSI target devices from disconnecting during command execution; the /c- option allows SCSI target

devices to disconnect during command execution. If neither option is specified, the default setting is /c- (allow target devices to disconnect).

You might need to use these options if your system has multiple SCSI target devices. If you enter the /c option, do not also enter the /c- option, and vice-versa.

/hx

This option allows you to specify the host adapter SCSI ID. The value *x* specifies the single-digit decimal address. Valid entries are the numbers 0 through 7. Any other values will be rejected, an error message will be displayed and the host adapter will default to the jumper setting. If no/h option is present, a default SCSI ID 7 is used. This option is rarely used, because the host SCSI ID is seldom changed from the default of 7.

Example: /h5

/u and /u-

The /u option enables the host adapter to initiate negotiation with the SCSI target device for synchronous data transfer. The /u- option prevent synchronous negotiation. If synchronous negotiation is disabled the host adapter defaults to asynchronous data transfer, and it negotiates for synchronous data transfer if a target device initiates the negotiation.

Synchronous negotiation is *enabled* by default on VL-300/310 host adapter boards, because data moves faster on the SCSI bus in synchronous mode. You may need to disable synchronous negotiation if you have a CD-ROM drive that does not support it. If your system does not recognize the CD-ROM drive, or if the drive doesn't work properly, add the /u- option to *config.sys*. Then, to assure the best performance on your system, enable synchronous

negotiation on all SCSI devices that do support it, such as fix disk drives.

If you enter the /u option, *do not* also enter /u- option, and vice-versa.

/y and /y-

The /y option prevents the host adapter from checking SCSI bus parity. The
/y- option enables host adapter parity checking. If neither option is specified, the default setting is /y- (enable parity checking).

If parity checking is enabled on the host adapter board, be sure it is supported by all installed SCSI devices and is enabled on those devices. (Most SCSI devices have a jumper to enable or disable parity). If you enter /y option, *do not* also enter the /y- option, and vice-versa.

/z

This option sets all Group 1 options, plus the /qx Group 2 option, to their default values. This convenient shortcut is much faster than changing each Group 1 option individually. Entering /z on the command line is equivalent to entering these default settings:

Default	Value
/c-	**Allow SCSI target devices to disconnect**
/y-	**Enable host adapter parity checking**
/u	**Enable synchronous negotiation**
/h7	**Set host adapter SCSI ID to 7**
/q11	**Set host interrupt request channel to 11**

After restoring the default values with /z, you can add customized Group 1 options on the same command line. For example, /z /u- resets the default and then disables synchronous negotiation.

Group 2 command line options

/b and /b-

The /b option tells aspi2dos to wait 250 milliseconds when it receives a busy status from a SCSI target device and then try to access the device again. It keeps trying until the SCSI device becomes available. The /b- tells aspi2dos to notify the program that called it that is received a busy status from the target device. aspi2dos does not try to access the device again unless told to do so by the calling program. If neither option is specified, the default setting is /b- (notify the calling program and do not try to access the device again).

You may need to use the /b option if you are upgrading from an earlier version of aspi2dos because this default is handled differently in the newer version. For example, a tape backup program may stop working or hang because aspi2dos tried to access the device while it was rewind, received no response, and did not try again. To solve the problem, add /b to the config.sys; aspi2dos will then keep trying to access the device until it succeeds. If you enter the /b option, do not also enter /b- option, and vice-versa.

/d

This option, which is entered automatically by EZ-SCSI, displays useful information about the host adapter and attach SCSI devices when you boot your computer.

/i

This option disables loading of the embedded Int 13 module. When /i is specified, Int 13 calls are routed through the host adapter BIOS instead of the Int 13 code in *aspi2dos* (This only applies to SCSI disks installed with the host adapter BIOS). The /i option is rarely used and is intended for debugging purposes.

/L

This option enables support for SCSI logical units (LUNs) other than zero. The driver can recognize all eight possible LUNs associated with each SCSI target ID. If this option is not entered, aspi2dos will only recognize LUN 0 for each SCSI target ID.

You only need to use /L if your system includes a disk device such as IOMEGA's Bernoulli Dual multi-drive that supports more than one LUN.

/p < port address >

This option sets the I/O port address that the driver uses to communicate with the host adapter. Valid addresses are the hex values 140h and 340h (the default). If you configure the host adapter to another address you must also enter a /p setting that matches the address. For example, if you change the host adapter jumper to port 140h, you must also add the entry /p140 to config.sys. Otherwise the driver will not be able to communicate with the host adapter.

Example: /p140

/pause

This option makes your system pause after loading aspi2dos at boot-time so you can read the message that appears on the screen. After you read the message, you can press any key to resume the booting process.

/qx

This option allows you to specify the host interrupt request channel. You do this by entering for x the (decimal) value of the channel number. Valid entries are the numbers 9, 10, 11, and 12. Any other value will be rejected, an error message will be displayed and host

adapter will default to the jumper setting. The default value is 11. This option is sometimes needed to resolve address and hardware conflicts in systems with multiple host adapters.

If you change the IRQ jumper(s) from the default setting of 11, you must also enter a corresponding /q option for the device=aspi2dos line in config.sys file. For example, if you change the jumper to IRQ12, you must add /q12 in config.sys.

Example: /q12

Sample config.sys entries

The Adaptec EZ-SCSI install program automatically edits your config.sys file, adding lines as needed to load the ASPI manager and the device drivers. The sample config.sys excerpt below shows some typical entries. Your config.sys entries may be different, depending on which drivers and utilities are already installed and on whether you are installing Adaptec EZ-SCSI for the first time or upgrading from a previous software version.

```
device=c:\adaptec\aspi2dos.sys /d
buffers=20
files=20
device=c:\windows\himem.sys
device=c:\dos5\setver.exe
device=c:\adaptec\aspidisk.sys
```

In this example the EZ-SCSI install program has correctly loaded the ASPI manager (aspi2dos) before any drivers. Note that himem.sys is not used if a memory manager such as QEMM-386 or 386MAX is to be installed; himem.sys or a third-party memory manager is, however, required for Windows.

Installing ASPI for Windows

The aspi2dos ASPI manager is fully compatible with Microsoft Windows 3.0 and 3.1.

If Windows is installed on your PC, you should select the Install ASPI for Windows option when you run the EZ-SCSI install program. Install will then automatically copy the two files winaspi.dll and vaspid.386 to your Windows \system subdirectory. You do not need to add any ASPI entries to your system.ini file.

Appendix D Host Adapter Message Classes

Your system can display a number of different messages when you boot it with the host adapter installed. The messages are divided into different classes. You can select which class of messages you want displayed by changing the host adapter jumper settings. See Chapter 2, "Jumper Setting", and Appendix B, "Jumper List", for information. This appendix lists the different message classes that are available.

Class 0-Header display (Default)

Adaptec AHA-1522 BIOS (AIC-6360)

Version 1.20L

Class 1-Jumper configuration information
These messages tell you which host adapter options you have specified with jumpers. The possible values are listed.

SCSI ID=0, 1, 2, 3, 4, 5, 6, 7

Interrupt Channel=9, 10, 11, 12

SCSI parity=enabled/disabled

transfer mode=DMA/PIO

boot=enabled/disabled

displayed Message Classes=#0, #1, #2, #3, #4

initiate sync negotiation=enabled/disabled

target disconnection=enabled/disabled

Class 2 SCSI drive information

Target 0: list disk drive vendor, product identification, and revision level.

Target 0: disk drive ready, but inquiry failed

Target 0: device identification not available

Class 3-Boot progress report

Reset SCSI bus.

Diagnostics completed without error.

Host adapter interrupt channel initialized.

Delay for targets to recover from reset.

No SCSI targets were set up.

Checking SCSI Target 0:

Executing SCSI Inquiry command.

Target is connected. Wait for target Ready.

Target is ready.

Executing "Get Disk Type" command.

Target check completed.

SCSI Target 0 set up as Drive C:

Checking SCSI Target 1:

Executing SCSI Inquiry command.

Target is connected. Wait for target Ready.

Target is ready. Recall target.

Executing "Get Disk Type" command.

Target check completed.

SCSI Target 1 set up as Drive D:

Attempting to boot from floppy.

Attempting to boot from hard disk.

Class 4-Error messages (Default)

Boot from floppy failed

Boot from hard disk failed

Target 0: target not connected

Target 0: target connected, but has a fault

Target 0: target connected, but is not a disk drive

Target 0: disk drive connected but not ready

Target 0: disk format not 512 bytes/block

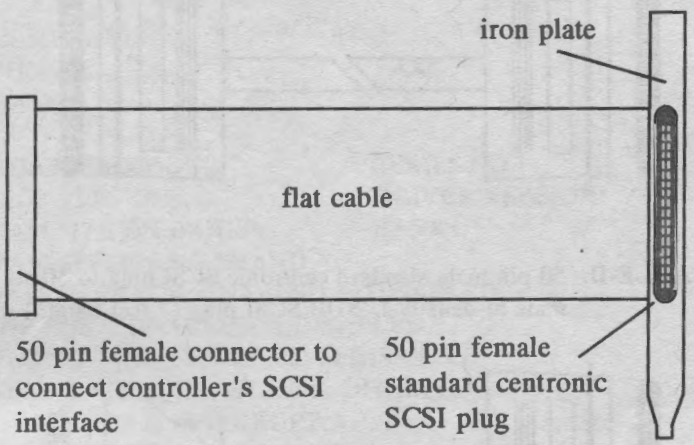
Host adapter self diagnostic failure

SCSI Target 0 not found

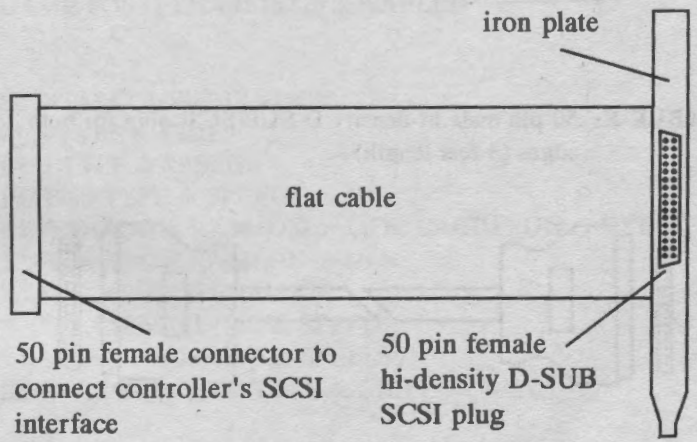
Unable to initialize target

Appendix E Optional Kits Message

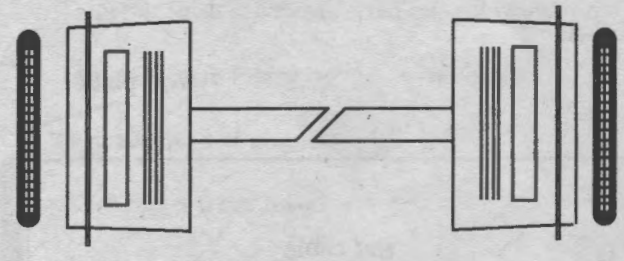
CABLE-A:



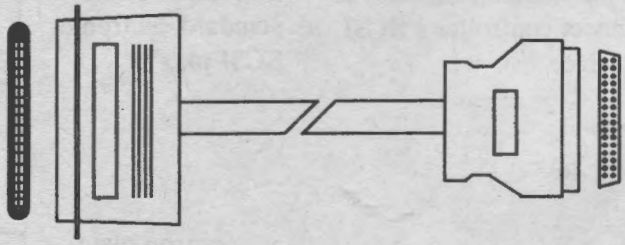
CABLE-B:



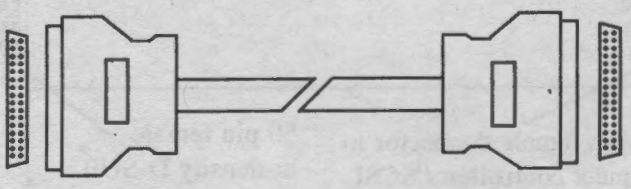
CABLE-C: 50 pin male standard centronic SCSI plug for both edges (3 feet length)



CABLE-D: 50 pin male standard centronic SCSI plug to 50 pin male hi-density D-SUB SCSI plug (3 feet length)



CABLE-E: 50 pin male hi-density D-SUB SCSI plug for both edges (3 feet length)



Appendix F Technical Service Inquiry Form

COMPANY:
PHONE: FAX:
DATE:

ADAPTER MODEL: SERIES NO.:
BIOS VERSION: DRIVER VERSION:
RAM SIZE ON BANK0: BANK1:
RAM SPEED AND BRAND:
PARITY CHECK: ENABLED or DISABLED
IDE PORT: ENABLED or DISABLED
FLOPPY PORT: ENABLED or DISABLED
SERIAL PORT: ENABLED or DISABLED
ADDRESS & INTERRUPT:A. B.
DEVICE TYPE:A. B.
PRINTER PORT: ENABLED or DISABLED
ADDRESS & INTERRUPT:
DEVICE TYPE:
GAME PORT: ENABLED or DISABLED

SYSTEM CONFIGURATION
M/B TYPE & CHIP:
CPU TYPE & SPEED:
I/O BUS TYPE & SPEED:
BIOS SHADOW RAM: ON or OFF, CACHE: ON or OFF
VGA SHADOW RAM: ON or OFF
RAM CONVENTIONAL(KB):
RAM EXTENDED(MB & SPEED):
RAM EXPANDED(MB & SPEED):
DISPLAY ADAPTER TYPE & CHIP:

tear off from hear, please attached this leaf in fault board by return

FLOPPY DRIVER TYPE & SIZE: 1. 2.
3. 4.

IDE HARD DRIVER TYPE & SIZE: 1. 2.

SCSI DEVICES TYPE & SIZE: 1. 2.
3. 4.

OTHER I/O CARD:

OPERATING SYSTEM: VERSION:

APPLICATION PROGRAM:

CONFIG.SYS (contents):

AUTOEXEC.BAT (contents):

PROBLEM DESCRIPTION: