Vesa Local Bus Super I/O Card

User Guide

Product: VL-super I/O card 2.88
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Notice

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Introduction

This manual provides installation instructions for the VL-Bus super I/O card.

Part of the IDE drives cost contribute to the high speed disk cache but usual IDE controllers cannot take this benefit. The VESA super I/O card gives optimized performance to nowadays IDE hard disk drives. Matching the card with the drive can enhance the transfer rate of the drive up to 4 times. Let alone the super IDE function, the card is packed with 4 floppy drive ports, 2 serial port, 1 parallel and 1 game port making it a high performance super I/O card.

Features

IDE port

- Use 32bits VESA local bus and automated read ahead buffer boosts transfer rate of an IDE harddisk upto 3 to 4 times faster than that of a standard ISA IDE controller card.
- Build in BIOS for automatic configuration & simplifies installation.
- Completely transparent to software, hence compatible with all kinds of operating system.
- Support upto two different types of IDE harddisk at different transfer rates.
- 33MHz guaranteed, 50MHz dependent on VL main board design.

Floppy port

- Interface to 3½" 1.44MB and 5¼" 1.2MB upto two floppy disk drives. (VL-Super I/O 2.88 supports up to 2.88MB Drive)
- Connect upto four drives . (Optional software driver and floppy cable required.)

Serial port

- Two serial ports configurable as COM1, COM2, COM3 or COM4.

Parallel port

- One centronic compatible parallel port configurable as LPT1, LPT2 or LPT3.
- Tolerates high voltage attack from printer.

Game port

- One game port connects to joystick.

Part list

The VL-Bus super I/O card supplies with following items. Please contact your supplier should there be any item missed.

- VL-Bus super I/O card   1 pc
- Cable set with metal bracket   1 pc
- Drive cable set   1 pc
- This manual   1 pc

Quick Installation

If you use the factory default settings you can quickly install the card. The default settings assumes:

1. Serial ports use COM1, COM2 addresses, IRQ4, IRQ3 respectively
2. Parallel port use LPT1 address and IRQ7.
3. Game port use standard 0201Hex address.
4. Floppy port use primary address, IRQ6 and DMA2.
5. IDE port use primary address and IRQ14.

Installation procedure:

1. Power off the Vesa Local Bus computer and open up the case.

2. Select one Vesa Local Bus slot. Unscrew and remove the corresponding metal bracket and the one next to the slot. Save the screws.

3. Insert the VL-super I/O card into the Vesa slot and the metal bracket with connectors next to the slot. Secure the card and the metal bracket with the saved screws to the back panel.

4. Plug the cable to the connectors by matching the width of cables.

5. Connect the IDE drive cable and floppy drive cable.

6. Close the case and power up the computer.

7. Setup IDE drive type and floppy drive type as instructs by your computer manual.

8. Ignore the prompt for setting up IDE drive transfer rate because the ROS on this card will auto configure the transfer rate according to the IDE drive model and brand name.

9. The system boot up with enhanced performance.

Customized Installation

IDE drive customizing:

In case of difficulties in IDE drive boot up, unknown brand/model drive type is encountered or transfer rate has to be set explicitly you to undergo following procedure:

1. Power up the machine and wait for prompt to setup IDE drive transfer rate.

2. Press [F10] to enter the setup manual.

3. Move cursor to highlighted field and change transfer rate for each drive individually to desired values. The transfer rate can be obtained from the IDE drive manual or refer to the appending table for most popular drive setting.

4. Save the configuration and exit.

5. The system continues to boot up using chosen transfer rate.

6. If error occurs try to lower the transfer rate.

Other I/O ports customization:

Other I/O ports customization will be mainly port address, IRQ and DMA channel setting. These settings can changed by adjusting jumpers on the card. The appending figure or the white legend on the card tells how these can be done. These adjustments are only required when other add on cards setting conflicted with this card. Consult the add on cards manual for adjustment suggestion

Electrical and Environmental Spec.

Environmental requirement:

Oper.temp.	10 to 50 °C, 50 to 122 °F
Store temp.	-40 to 70 °C, -40 to 158°F
Humidity:	0 to 95%, non condensing
Altitude:	0 to 10,000 feet

Power supply requirement:

+5V 0.5A Max.,   +12V 0.1A Max., -12V 0.1A Max.

Physical dimensions
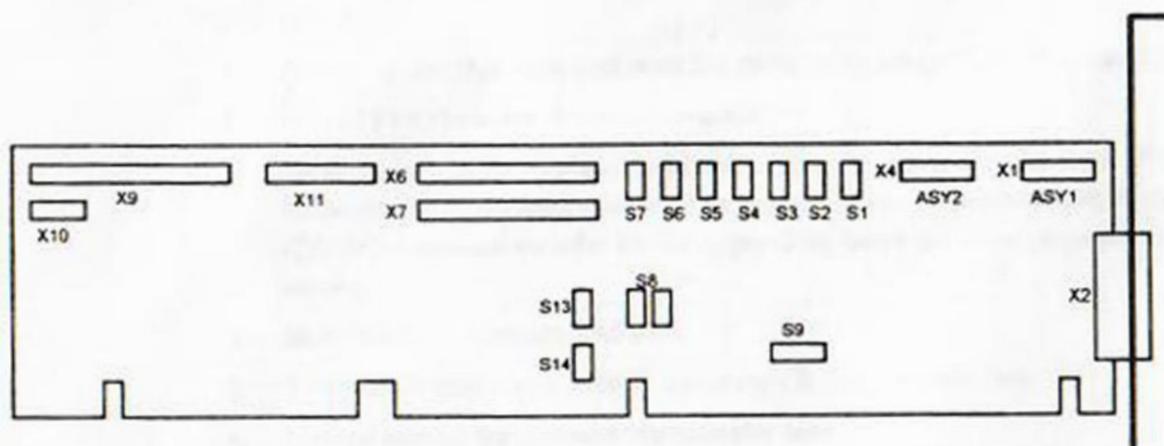
9.5 X 2.6 X 0.86 inches, 6 oz.

240 X 70 X 22 mm, 175 gm.

Jumper setting diagram

LPT PORT	S3	S2
Disable	2-3	2-3
3BC	1-2	2-3
378	2-3	1-2
278	1-2	1-2

ASY1	S6	S7
Disable	2-3	2-3
COM3	1-2	2-3
COM2	2-3	1-2
COM1	1-2	1-2

ASY2	S4	S5
Disable	2-3	2-3
COM4	1-2	2-3
COM1	2-3	1-2
COM2	1-2	1-2

ROM ADD	S13	S14
C800	CL	CL
CC00	CL	OP
D000	OP	CL
D400	OP	OP

S8	ASY1	ASY2
IRQ4	1-2	2-4
IRQ3	1-3	3-4

FDC	S1
ENABLE	1-2
Disable	2-3

PRT IRQ	S9
IRQ7	1-2
IRQ5	2-3

Suggested transfer rate

Brand/Model	Transfer rate (MB/s)
Brand BT9170A/BT9220A	7.0
Conner CP3000/CP3024/CP3044	5.0
Conner CP30104	5.0
Conner CP30204	5.0
Conner CP30254	6.0
Conner CP30544	4.5
HP C2233/2234/2235	6.8
Maxtor LXT7120A	3.3
Maxtor LXT7213A	6.0
Maxtor LXT213A	4.0
Maxtor LXT340A	6.0
Quantum LPS52AT	5.0
Quantum LPS1204AT/LPS40AT	5.0
Western Digital AC1170/AC2250/AC2340	4.5
Western Digital AC1210/ac2420	4.5
Western Digital WDAP-2340	4.5
Western Digital WDAP-2200	5.0

Above data are reference figures only, it may change due to manufacturer settings. Please refer to drive manufacturer for latest change.

Quick guideline

Low setting - 2.0MB/s transfer rate can be used for most all IDE Drive

Medium setting - 4.0MB/s transfer rate can be used for most IDE Drive.

High setting - 6.0MB/s transfer rate is a save and manual setting for high end drive.

Real High setting - Up to the time of publishing, ATA mode 3 IDE drive can run 7MB/s.

Note