

ENHANCED VESA SUPER IDE I/O CARD (2S,1P,1G)

PT-627

USER'S MANUAL



Recycled Paper

SECTION 1. INTRODUCTION

1.1 Overview

PT-627 is a powerful ENHANCED VESA IDE and ISA floppy, FIFO UART serial and ENHANCED parallel port controller for VL-Bus computer system. It interfaces between standard or ENHANCED IDE drives and the VL-Bus to support 32bit and 16bit data transfer.

There are three versions of PT-627 as below :

- 1) PT-627A - Enhanced IDE + Standard I/O function
(UM8672 + UM82C863 + UM8667)
- 2) PT-627B - Enhanced IDE + FIFO UART serial ports + ECP, EPP or SPP
(UM8672 + UM8663 + UM8667)
- 3) PT-627C - Enhanced IDE + FIFO UART serial ports + ECP,EPP or SPP + 2.88M FDD
(UM8672 + UM8668 + UM8667)
- 4) PT-627D - Enhanced IDE + FIFO UART serial port + standard parallel port
(UM8672 + UM8662 + UM8667)

PT-627 support four IDE devices, two floppy disk drives, two serial ports, one parallel port, one game port . All the I/O ports, FDD drive and HDD controller adapter can be enabled or disabled by jumper or driver.

- Support maximum 4 ENHANCED IDE devices in primary and secondary IDE ports ie. HDD, CD-ROM, Tape drive ... etc.
- Support maximum 2 floppy disk drives
(360K/1.2M - 5.25"; 720K/1.44M/2.88M - 3.5")
- Support 2 ~~1650~~ FIFO UART serial ports COM1/COM3 ; COM2/COM4
- IRQ for two serial ports can be jumper selected as IRQ 3, 4, 5, 9
- Support 1 printer port LPT1/LPT2 up to ECP, EPP or SPP standard
- Support 1 game port
- DRQ 2 and IRQ 9 protection
- Support IDE BIOS for ENHANCED IDE under DOS
- Support hardware anti-virus protection
- Support GREEN feature for I/O chip

1.2 Checklist

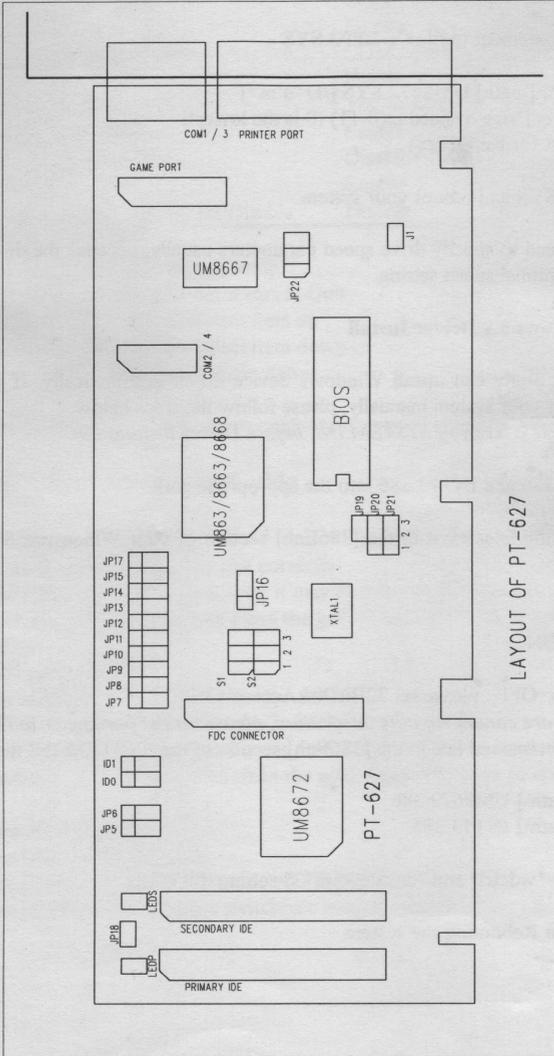
Please check your PT-627 package to ensure that it contains the following items :

- PT-627 VESA IDE I/O Card
- PT-627 User's manual
- One 3 1/2" Driver Diskette
- One dual floppy disk drive cable
- Two IDE hard disk cables
- One metal bracket with DB-15 Game cable & DB-25 Serial cable

If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

SECTION 2. INSTALLATION GUIDE

2.1 Layout



2.2 Jumpers and Connectors

Improper setting of PT-627 may cause data loss of your hard disk, users are requested to BACKUP their Hard Disk before installation.

2.2a HDD LED

LEDP	Primary IDE LED
LEDS	Secondary IDE LED
JP18	Short=LEDP or LEDS for both Primary and Secondary IDEs

2.2b Speed Selection for HDD

ID0	ID1	Active	Recovery	Speed	Definition
1	1	18T	37T	0	Under 40MB HD
0	0	15T	30T	1	40/50MHZ Default
0	1	15T	19T	2	25/33MHz Default
1	0	9T	13T	3	CPUCLK<20MHZ

Note : T=CPUCLK, For 33MHz; T=33ns
For 50MHz; T=20ns

2.2c Multi-IO & FDC Jumper Setting

Jumpers	Function	1-2	2-3
JP5	Primary IDE Enable / Disable	Enable	Disable
JP6	Secondary IDE Enable / Disable	Enable	Disable
JP7	FDC Enable/Disable	Enable	Disable
JP8	GAME Enable/Disable	Enable	Disable
JP9	LPT2 / LPT3	LPT2	LPT3
JP11	Printer Enable / Disable	Enable	Disable
JP12	COM1 / 3 Enable/Disable	Enable	Disable
JP13	COM1 /COM3 Select	3F8 (COM1)	3E8 (COM3)
JP14	COM2 /COM4 Select	2F8 (COM2)	2E8 (COM4)
JP15	COM2 / 4 Enable/Disable	Enable	Disable
JP16	ECP Enable/Disable	Enable	Disable
JP20	IRQ3 / IRQ5 Select	IRQ5	IRQ3
JP21	IRQ4 / IRQ9 Select	IRQ9	IRQ4

JP19	Green feature for I/O chip	Connect cable between Pin2 and JP32 of PT-429G
J1	IOCHRDY select	Short=Enable Open=Disable

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1-2	2-3	9T	13T	3	CPUCLK<20MHz

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JP9	LPT2 / LPT3	LPT2	LPT3
JP11	Printer Enable / Disable	Enable	Disable
JP12	COM1 / 3 Enable / Disable	Enable	Disable
JP13	COM1 / COM3 Select	3F8 (COM1)	3E8 (COM3)
JP14	COM2 / COM4 Select	2F8 (COM2)	2E8 (COM4)
JP15	COM2 / 4 Enable / Disable	Enable	Disable
JP16	ECP Enable / Disable	Enable	Disable
JP17	Factory Setting	Short	
JP20	IRQ3 / IRQ5 Select	IRQ5	IRQ3
JP21	IRQ4 / IRQ9 Select	IRQ9	IRQ4

J1	IOCHRDY select (For PT-627B only)	Short=Enable Open=Disable
JP19	Green feature for I/O chip (For PT-627B only)	Connect cable between Pin2 of this EIDE card and JP32 of PT-429G
JP22	Address select for ROM BIOS (U6)	The address range is C800, D000 and D800

2.2d Enhanced Printer Port

Function	JP11 (PMODE 1)	JP10 (PMODE 2)
SPP	1-2	2-3
EPP	2-3	1-2
ECP	1-2	1-2

S1	DRQ Select	Short Pin1=DRQ1 Pin2=DRQ3 Pin3=Disable
S2	DACK Select	Short Pin1=DACK1 Pin2=DACK3 Pin3=Disable

2.2e Connectors

Connectors	Function
CN1	Primary IDE connector
CN2	Secondary IDE connector
CN3	FDC connector
CN4	Game Port
CN5	COM1/3 Port
CN6	COM2/4 Port
CN7	Printer Port

SECTION 3. Software Installation

3.0a DOS Driver Install

The INSTALL4.EXE utility can install DOS device driver automatically. If you want to install DOS device driver manually, please follow the steps below.

1. Copy the driver UM8672.SYS into the appropriate path.
2. Add the following statement to file CONFIG.SYS

```
DEVICE=[drive] [\path] UM8672.SYS [/D<n:m>]  
Where D<n:m> is Drive n speed m(0-11) (0 is the lowest)  
(See Appendix A for Reference)
```

3. Save the CONFIG.SYS and reboot your system.

Remark : You don't need to specify drive speed parameters usually, because the device driver is reconfigured for the optimal speed setting.

3.0b Microsoft Windows 3.x Driver Install

The INSTALL4.EXE utility can install Windows device driver automatically. If you want to install device driver for your system manually, please follow the steps below.
You are advised to make a copy of SYSTEM.INI before Driver installation.

1. Copy the UM8672.386 and INT13.386 into the appropriate path.
2. Check if the following lines exist in the [386Enh] section of your Windows's SYSTEM.INI file.

```
[386 Enh]  
32BitDiskAccess=ON
```

3. If 32BitDiskAccess=OFF, please set 32BitDiskAccess=ON

Remark : *Some software cannot support this feature, please set the parameter to OFF.*

4. Add the following command line in the [386Enh] section of the SYSTEM.INI file.

```
device=[drive:] [\path\] UM8672.386  
device=[drive:] [\path\] INT13.386
```

5. Delete the "device=*wdctrl" and "device=*int13" setting if it exists.
6. Restart Windows or Rebooting the system.

3.0c PT-627 Software Switch Function En/Disable Hot-Key

You can press F10 to get such a picture (power on default)

1. FDC En/Disable	: Enable
FDC Port Select	: 3F1 => 3F7
2. Primary Serial Port	: Enable
Primary Serial Port Select	: COM1 (3F8)
3. Secondary Serial Port	: Enable
Secondary Serial Port Select	: COM2 (2F8)
4. Parallel Port	: Enable
Parallel Port Select	: 378 => 278
5. Primary IDE En/Disable	: Enable
Secondary IDE En/Disable	: Disable
6. Game Port En/Disable	: Enable
7. Partition table write protected En/Disable	: Disable

Press <Escape>	Key to quit setup
<Enter>	Key to Set status & Quit
<Arrow Up>	Key to Select item up
<Arrow Down>	Key to Select item down
<Space>	Key to Toggle status

The user should consider the system environment to change the setting.

SECTION 4. Trouble Shooting Guide

1) No display after power on

- The card have not inserted in the slot correctly
- If the gold fingers of the VL-Bus dirty, it may be influenced the conduction between gold fingers and slot. The solution is to clean the gold fingers by freon or eraser.

2) Cannot boot up from HDD

- Check the connection of HDD cable
- Make sure the HD type is set correctly in BIOS setup
- If the gold fingers of the VL-Bus dirty, it may be influenced the conduction between gold fingers and slot. The solution is to clean the gold fingers by freon or eraser.

3) Malfunction of I/O ports

- Check the connection of cables
- Check the jumper setting of the respected I/O port
- Check the setting in the software switch(see section 3.0c)

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3) Malfunction of I/O ports

- Check the connection of cables
- Check the jumper setting of the respected I/O port
- Check the setting in the software switch(see section 3.0c)

Appendix A

a) The PT-627's driver will set the IDE CD-ROM as the last drive even you set it as drive D or drive E. For example,

Primary		Secondary	
Drive 0	Drive 1	Drive 2	Drive 3
HDD	CD-ROM	HDD	HDD
C:	F:	D:	E:

b) How to use four HDDs

1) If the system BIOS cannot support 4 IDE devices,

- Set the jumper of the two HDDs which are connected to the primary IDE port to Master and Slave respectively, don't care the HDDs in secondary IDE port
- Install the PT-627 driver into the boot up drive
- Then the four HDDs can be detected by the driver automatically

2) If the system BIOS support 4 IDE devices,

- Use the above method or setup the HDDs from system BIOS directly

c) How to use HDD over 528MB

- Enable the LBA feature in system BIOS
- Install the PT-627 driver into the boot up drive

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- Check the setting in the software switch(see section 3.0c)

Remark :

a) The PT-627's driver will set the IDE CD-ROM as the last drive even you set it as drive D or drive E. For example,

Primary		Secondary	
Drive 0	Drive 1	Drive 2	Drive 3
HDD	CD-ROM	HDD	HDD
C:	F:	D:	E:

b) Some software cannot support 32bitDiskAccess under Windows environment, you need to set the parameter of 32bitDiskAccess=OFF(see section 3.0b)

Appendix A - Hard disk speed table

Conner	50MHz	33MHz	25MHz
CP30104H	3	5	8
CP30174E	8	10	10
CP30544	3	8	10
CP30084E	5	8	10
CP3544	6	9	10
CP30104	3	5	8
CP30204	6	9	10
CP30254	4	8	10
CP30340	9	11	11
CP3204F	6	9	10
CP3044	1	2	3

Quantum	50MHz	33MHz	25MHz
LP240AT	3	6	9
LP120AT	4	6	8
LP105AT	5	8	10
LP42AT	3	6	7
ELS170AT	6	9	11
LPS525AT	8	10	11
LES540AT	9	10	11
LES270A	7	9	10
PD120AT	6	9	10
LES85AT	5	8	9
PD210AT	0	3	6
LP52AT	1	5	7

WD	50MHz	33MHz	25MHz
WD-AC2420	5	11	11
WD-AC1210	5	10	11
WD-AC2170	6	9	10
WD-AC2250	6	9	10
WD-AC2340	6	9	10
WD-AC2120	6	9	10
WD-AC280S	2	4	7
WD-L160	5	8	10
WD-L42	6	8	9