QD6580W/787/777 VL IDE Card

User's Manual

1. Features

- Fully compatible with VESA Local Bus (VL-Bus) standard
- Operates up to 50MHz VL-Bus speed
- Two IDE ports support up to 4 IDE hard disks or IDE CD-ROMs
- Supports 32-bit and 16-bit IDE Host data transfer
- Read-ahead FIFO and post-write buffer improve IDE data transfer rate
- Fully supports Enhanced IDE Mode 3
- Auto-sensing and setting IDE timing to get better performance easily
- Provides drivers for DOS, Windows 3.1 or 3.11, OS/2 2.1 and Windows NT
- Supports up to two 3.5" or 5.25" floppy drives
- One game port
- Immediate or automatic power down mode for power management
- Two high speed 16550 compatible UARTs (COM1/COM3 & COM2/COM4 selectable) with 16-byte send/receive FIFO
- One parallel port at I/O address 378H/278H/3BCH with additional bi-directional I/O capability and multi-mode selection (SPP/EPP/ECP) (IEEE1284 compliant)

FOR QD6580W/787 :

- 360K/720K/1.2M/1.44M Floppy format

FOR QD6580W/777 :

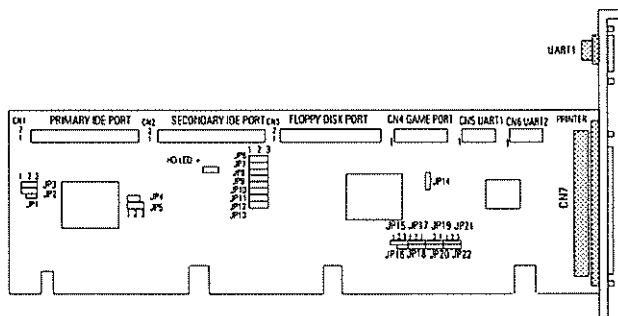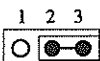- 360K/720K/1.2M/1.44M/2.88M Floppy format

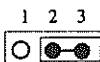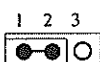Figure-1 Diagram of QD6580W/787/777 VL card

2. Jumper settings

2.1. VL IDE controller

Note: * represents default Jumper Setting

JP1   ⊡⊙ ⊙⊡   ⊡●—●⊡
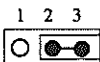
OPEN*   CLOSE
Only disk Peripheral(s)   Disk and/or non-disk peripheral
for Primary IDE port   for Primary IDE port

        1   2   3

JP2   ⊡ O ●—● ⊡   * Sense CLK frequency from M/B VL slot

Before using QD6580W/787 VL IDE card or QD6580W/777 VL IDE card,
make sure that the M/B jumper setting of VL ID about CPU frequency is
correct.

        1   2   3   1   2   3

JP3   ⊡ O ●—● ⊡   ⊡ ●—● O ⊡

     IDE Enable *   IDE Disable

JP4   ⊡●—●⊡   CLOSE * : Two IDE ports (PRI : 1FX/3FXH, SEC : 17X/37XH)

        ⊡ O O ⊡   OPEN   : One IDE port (1FX/3FXH)

        1   2   3   1   2   3

JP5   ⊡ O ●—● ⊡   ⊡ ●—● O ⊡

     *   Chip Registers port 0BXH   03XH

HD LED : HD LED connector

Note :   If a Non-disk peripheral (for example IDE CD-ROM) is used, it is
         recommended to connect it to the secondary port and close JP4.
         If you connect a IDE Hard Disk to the secondary port and use DOS or
         Windows, make sure that the Main Board BIOS support the secondary IDE
         port.

2.2. Parallel port

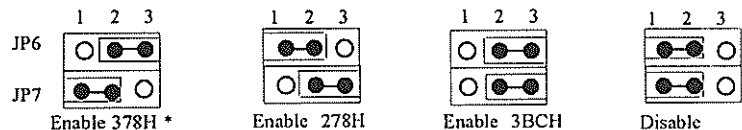Address selection :

JP6		JP6		JP6		JP6	
JP7		JP7		JP7		JP7	

Enable 378H * Enable 278H Enable 3BCH Disable

Interrupt Request :

JP15

IRQ7 * IRQ5

Port Mode:

JP19

JP20

PRINTER * ECP+EPP EPP+PS/2 EXT2FDD
(Bi-directional)

DMA channel :

JP17

JP18
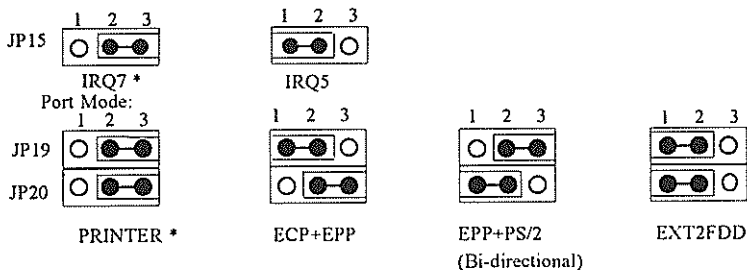
DMA channel 1 DMA channel 3*

2.3. Serial port 1 (UART 1) (JP8, JP9)

JP8

JP9

Enable COM1 * (3F8H) Enable COM3 (3E8H) Disable
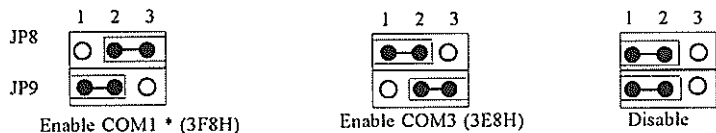
2.4 Serial port 2 (UART2) (JP10, JP11)

JP10

JP11

Enable COM2*(2F8H) Enable COM4(2E8H) Disable
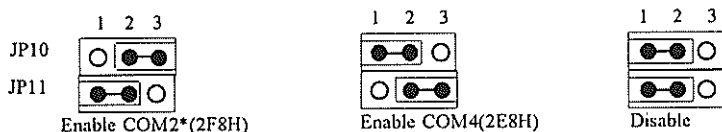
2.5 Floppy Diskette (JP12, JP13)

```
      1  2  3                    1  2  3
JP12  O [●-●]                   [●-●] O

      Floppy Enable *           Floppy Disable

      1  2  3                    1  2  3
JP13  O [●-●]                   [●-●] O

      Normal Mode *             Drive A,B exchange
```

2.6 Game port (JP14)

```
JP14   [●-●]    CLOSE * : Enable

       [O  O]   OPEN : Disable
```
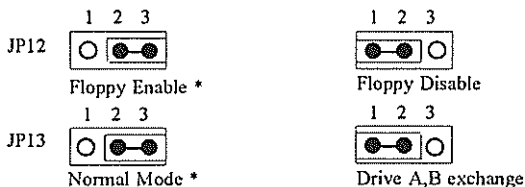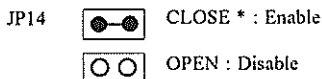
3. Software driver

3.1. Introduction

There are four drivers that come with the diskette :

1. QD6580.SYS - DOS enhanced driver.

2. QDICTRL.386 - WINDOWS 3.1 or 3.11 enhanced driver.

3. QDHS506.ADD - OS/2 2.1 enhanced driver.

4. ATDISK.SYS - WINDOWS NT enhanced driver

3.2. DOS and WINDOWS driver installation

There is an installation program in the QD6580 diskette. You can install the drivers as follows :

1. Insert the diskette in drive A and change drive from C: to A: .

2. Type the following command.

    A: INSTALL <Enter>

3. You will see the display on the screen :

    Install DOS Driver (Y/N)_

If you want to install DOS driver, please type "Y", otherwise type "N".

4. Then you will be asked :

    Install WINDOWS Driver (Y/N)_

If you want to install WINDOWS driver, please type "Y", otherwise type "N".

5. The drivers will be installed automatically. After installation, please reboot your system.

This installation program will modify the files CONFIG.SYS in DOS and SYSTEM.INI in WINDOWS. We can preserve their backup files as CONFIG.BAK and SYSTEM.BAK in their corresponding directories.

For more information, please read the README.TXT in the diskette.

3.3. DOS and WINDOWS driver uninstallation

If you try to use other IDE card, the pervious installed QD6580 drivers may be ineffective. You can uninstall the drivers as follows :

Insert the QD6580 diskette in drive A and change drive from C: to A:, then enter the following :

    A:INSTALL /U <Enter>

The drivers will be uninstalled automatically.

3.4. Special case installation

There are two options in the installation program. You may use them for some special cases. The using method is as follows :

    A:INSTALL [/Option 1] [/Option 2]

Option 1 :

S   Supports hard disk type with transfer rate from 3.8 to 4.4MB/s or higher

N1   Supports hard disk type with transfer rate from 4.4 to 5.0MB/s or higher

N2   Supports hard disk type with transfer rate from 5.0 to 6.3MB/s or higher

F   Supports hard disk type with transfer rate that is higher than 6.3MB/s

U   For uninstalling the software driver(s)

H   For help information

Option 2 :

M   For hard disk that supports multiple sectors read/write

O   Forcing driver to support only single sector read/write

NI   Using motherboard BIOS hard disk service routine INT 13H

Note :

1. Usually the default installation does not ask for options because the driver can configure most of the hard disks automatically. If the performance has little improvement after the driver installed, you can try to choose the options to get better performance according to your hard disk.

2. /U or /H can only be used without option2.

3. If there is an item "IDE Block Mode Transfer" in your motherboard BIOS CMOS SETUP program, you must set it as "Disabled" when you want to install DOS or WINDOWS driver, because the drivers already use IDE block transfer mode. But if you use option /NI to install the drivers, you can set this item of motherboard BIOS as "Enabled". At this time, the configuration in the file SYSTEM.INI of WINDOWS is as following :

    32BitDiskAccess = OFF

    device = *int13

    device = QDICTRL.386

4. If you set LBA mode in motherboard BIOS CMOS SETUP for hard disk drive whose size is greater than 528MB, you must run FDISK using this LBA mode. Otherwise, you can not use the LBA mode.

5. If you install IDE CD-ROM drive on the primary port and it does not work after installing QD6580 DOS driver, you can use option /NI to try again.

WARNING :

1. If you want to use the option to improve performance, you must ensure that the hard disk transfer rate is higher than that given by the option, otherwise the hard disk may lose its data.

2. If you use Windows for Workgroups 3.11, you can not enable the 32-bit File Access Feature in Virtual Memory of Control Panel for Enhanced 386 after you have installed our Windows driver, because 32-bit File Access Feature uses a different file access method and it conflicts with our Windows driver. Otherwise, you must not install our Windows driver.

3.5. OS/2 2.1 enhanced driver installation

1. Copy the QDI1S506.ADD into the OS2 directory of your system.

2. Check if the following line exists in the CONFIG.SYS file of OS/2 :

    BaseDev = IBM1S506.ADD

If the statement exists, please delete it.

3. Add this following statement in your CONFIG.SYS file.

    BaseDev = QDI1S506.ADD

4. Reboot your system.

3.6. WINDOWS NT enhanced driver installation

1. When you complete WINDOWS NT installation, enter the subdirectory \WINNT\SYSTEM32\DRIVERS (For WINDOWS NT 3.5, it may be WINNT35\SYSTEM32\DRIVERS). There is a file named ATDISK.SYS in it.

Using :

    Copy ATDISK.SYS ATDISK.OLD

to preserve it.

2. Insert the diskette in drive A and type :

    Copy A:\ATDISK.SYS

to this subdirectory to replace the driver.

3. Then shutdown and restart the computer.

Appendix. Performance report

Hardware config :	UMC491 VL M/B, 4MB Memory, 256K Cache, CL5428 VL VGA Card		
Testing program :	Coretest 2.92		
Disk type	486DX-33	486DX2-66	486DX-50
WD Caviar 2340 (CCC A9) *	8013.8	8219.7	8010.3
Conner CFA340A	5311.1	5320.4	5580.6
Maxtor 7245AT	4382.3	5355.4	4396.5
Maxtor 7345AT	4541.1	4529.6	4538.9

Note : * Indicates the disk of this type supports IORDY of Enhanced IDE Mode 3.

P/N 430-03002-801
Manual QD6580W/787/777 Ver1.0