

# **ENHANCED IDE I/O CARD (2S, 1P, 1G)**

## **USER'S MANUAL (FEIOL-UC3C)**

March, 1995  
Version 1.0

## Table of Contents

I	INTRODUCTION	1
II	GENERAL SPECIFICATION	2
III	INSTALLATION	3
IV	JUMPER SETTING	4
V	DEVICE DRIVER INSTALLATION	5

## I INTRODUCTION

This manual is designed to provide the basic information necessary for users to understand and properly use the FEIOL-UC3C Enhanced VL-Bus IDE Controller.

The FEIOL-UC3C Enhanced IDE I/O Card is made up of UMC 8672, 8667 and 8663A chipsets, which consists of two 16C550 compatible UARTS, one multi-mode parallel port and a high performance floppy disk controller, dual channel IDE interface, and a game port decoder. It is a high-performance, low-cost and integrated circuit design for IDE hard disk applications. This I/O card is fully compatible with ANSI ATA revision 3.1 specification for IDE hard disk operations and VESA VL-Bus revision 1.2 specification for LOCAL Bus Motherboard operations.

## II GENERAL SPECIFICATIONS

- Support 486 SX/DX/DX2 VESA local bus IDE interface
- Provides 32-bit data read/write operation up to 50 MHz
- Zero wait-state data read and posted write for system operation
- Programmable command active and recovery times
- Support Dual Channel IDE (Maximum 4 IDE devices such as harddisk and IDE CD-ROM drives with independent timing control; Primary & Secondary)
- Support Enhanced IDE Mode-3 feature
- Support hardware anti-virus 2 options protection
- Support Green-PC auto power down function
- Support two 16C550 compatible UARTS ports
- Support one multi-mode parallel port
- Software driver support for IDE: DOS, Windows, OS/2, UNIX and Netware

## III INSTALLATION

- A) IDE hard disk controller**
  - Connecting IDE to hard disk drive(s) via a 40 way ribbon type cable
  - Enable/Disable by setting jumper JP5 and JP6
- B) Floppy disk drive controller**
  - Connecting floppy to floppy disk drive(s) via a 34 way ribbon type cable
  - Enable/Disable by setting jumper JP9
- C) Serial Communication Ports**
  - Primary ASYN1 (DB-9 connector) and secondary ASYN2 (DB-25 connector)
  - Assignable to COM1/COM3 and COM2/COM4 by setting jumpers JP11 and JP13
  - Enable/Disable by setting jumpers JP10 and JP12
- D) Parallel Printer Port**
  - Connecting printer port to printer via a parallel printer cable
  - Assignable to LPT2 or LPT3 by setting jumper JP14
  - Assignable 3 high performance modes, SPP, EPP and ECP by setting Jumper JP7 and JP8
- E) Game Port**
  - Connecting joystick to the Game port
  - Enable/Disable by setting jumper JP15

## IV JUMPER SETTING

JUMPER	ENABLE	DISABLE	FUNCTION
JP1	Suspend LED	Open	Primary Hard Disk Drive LED Indicator
JP2	Suspend LED	Open	Secondary Hard Disk Drive LED Indicator
JP3 (ID0)			
JP4 (ID1)			

JP3 (ID0)	JP4 (ID1)	ACTIVE	CYCLE	CPU CLOCK
1-2	1-2	15T	30T	40/50 MHz
1-2	2-3	9T	13T	Below 20 Mhz or Enhance IDE support
2-3	1-2	15T	19T	25/33 Mhz
2-3	2-3	18T	37T	Under 40 MHz or Non ATA support

JP5	1-2	2-3	Primary Hard Disk Controller
JP6	1-2	2-3	Secondary Hard Disk Controller

	JP7 (Parallel Port Mode 1)	JP8 (Parallel Port Mode 2)
Disable	2-3	2-3
SPP	1-2	2-3
EPP	2-3	1-2
ECP	1-2	1-2

JP9	1-2	2-3	Floppy Disk Controller
JP10	1-2	2-3	Primary Serial Port
JP11			1-2 For COM1, 2-3 For COM3
JP12	1-2	2-3	Secondary Serial Port
JP13			1-2 For COM2, 2-3 For COM4
JP14			1-2 For LPT2, 2-3 For LPT3
JP15	1-2	2-3	Game Port
JP16	1-2	2-3	External Floppy Disk Controller.
JP17			1-2 For DRQ1, 2-3 For DRQ3
JP18			1-2 For DACK1, 2-3 For DACK3

## V DEVICE DRIVER INSTALLATION

- 1) UM8672 VL BUS IDE DEVICE DRIVERS are saved in this diskette. These drivers are not only designed for UM8672 to improve IDE I/O data transfer rate between IDE hard disk(s) and your system, but also support up to 4 hard drives.

The following files are included :

1. README
2. INSTALL4.EXE ( V2.0, auto install utility )
3. UM8672.SYS ( V2.0, DOS device driver )
4. UM8672.386 ( V2.0, Windows device driver for V3.1x )
5. INT13.386 ( V2.0, Windows device driver for V3.1x )
6. UMC1S506.ADD ( V2.0, OS/2 device driver for V2.x )
7. UMC310.DSK ( V2.0, NetWare device driver for V3.10 )
8. UMC311.DSK ( V2.0, NetWare device driver for V3.11, 3.12 )
9. UMC401.DSK ( V2.0, NetWare device driver for V4.0x )
10. UNIX.UMC ( V2.0, SCO UNIX device drive for 3.2V4.1 )
11. V1508672.PT4 ( Release Note for Diskette Version 1.5 )

- 2) **Install DOS Device Driver for UM8672 VL-Bus IDE Control**

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

- I) Copy the DOS\UM8672.SYS into the appropriate path.
- II) Add following statement to your CONFIG.SYS file to auto load the driver during bootup.

```
device=[drive:][\path\]UM8672.SYS[D<n:m>][\Cyl<n:m>]
[Hd<n:m>][\Sec<n:m>]
```

where

D<n:m> Drive n speed m(0-11) ( 0 the lowest )  
 Cyl<n:m> Drive n(2-3) cylinder number m  
 Hd<n:m> Drive n(2-3) head number m  
 Sec<n:m> Drive n(2-3) sector number m

For instance, the user wants to load UM8672.SYS with drive 0 speed = 6, and the DOS driver resides in the root directory of the drive C:. Add the following statement to your CONFIG.SYS file.

```
DEVICE = C:\UM8672.SYS /D0:6
```

You don't need to specify drive speed and Cylinder, Head, Sector parameters usually, because the device driver is reconfigured for the optimal speed setting and detect the Cylinder, Head, Sector automatically.

- III) Reboot your system.
- IV) UM82C863, UM8663, UM8668 & UM8672 Software Switch Function En/Disable Hot-key (F10):

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

1. FDC En/Disable	: Enable
FDC Port Select	: 3F0 => 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 => 37F
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 setup.

- 3) Install Windows Device Driver V3.x for VL-Bus IDE Controller

The INSTALL4.EXE utility can install Windows device driver automatically. If you want to install Windows device driver for your system manually your change the drive speed, please follow the steps below.

- I) Copy the Windows\UM8672.386 and Windows\INT13.386 into the appropriate path.
- II) Check if the following lines exist in the [386Enh] section of your SYSTEM.INI file.

```
[386Enh]
32BitDiskAccess=ON
device=*int13
device=*wdctrl
```

If any statement does not exist, please add it to the [386Enh] section. Please add a preceding semi-colon in front of "device=\*wdctrl" and "device=\*int13" command lines. If "32BitDiskAccess" option is set to be "OFF", Please change it to be "ON".

- III) Add these following statements to the [386Enh] section in your \WINDOWS\SYSTEM.INI file.

```
device = [drive:][\path\] UM8672.386
device = [drive:][\path\] INT13.386
DriveSpeed = [D<n:m>]
```

where

D<n:m> Drive n speed m(0-11) ( 0 the lowest )

For instance, the user wants to load Windows drivers with drive 1 speed = 11, and the Windows drivers reside in the WINDOWS\SYSTEM directory of the drive C:. Add the following statements to your SYSTEM.INI file.

```
[386Enh]
32BitDiskAccess=ON
device=*int13
device=*wdctrl
DriveSpeed = /D1:11
device = c:\windows\system\UM8672.386
device = c:\windows\system\INT13.386
```

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

IV) Reenter your Windows.

4) Install OS/2 Device Driver V2.x for VL-Bus IDE Controller

If you want to install OS/2 device driver for your system, please follow the steps below.

I) Copy the OS2\UMC1S506.ADD into the OS2 directory of your system.

II) Check if the following line exists in the CONFIG.SYS file.

```
BaseDev = IBM1S506.ADD
```

If the statement exists, please delete it or add "REM" in front of it.

III) Add this following statement to your CONFIG.SYS file

```
BaseDev = UMC1S506.ADD [/A:<0 or 1> /U:<0 or 1> /S:<speed>]
```

where

```
speed : drive speed setting from 0 to 11 ( 0 the lowest )
```

Note : The user MUST NOT specify either drive or path name.

For instance, the user wants to load UMC1S506.ADD with drive (Unit) 0 speed 6 and drive (Unit) 1 speed 11 which are attached on Adapter 0. Add the following statement to your CONFIG.SYS file.

```
BaseDev = UMC1S506.ADD /A:0 /U:0 /S:6 /U:1 /S:11
```

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

IV) Reboot your system.

5) Install NetWare Device Driver for VL-Bus IDE Controller

If you want to install NetWare device driver for your system, please follow the steps below.

I) Copy the NetWare\UMCxxx.DSK into the appropriate path.

II) Bring up the NetWare server of your system.

III) Type the following statement after the ":" prompt

```
:load UMCxxx PORT=<x> INT=<y>
[/D<n:m>][/Cyl<n:m>][/Hd<n:m>][/Sec<n:m>]
```

where

x can be 1F0 or 170

y can be E or F

D<n:m> Drive n speed m(0-11) ( 0 the lowest )

Cyl<n:m> Drive n(2-3) cylinder number m

Hd<n:m> Drive n(2-3) head number m

Sec<n:m> Drive n(2-3) sector number m

Note : You MUST NOT load the ISADISK.DSK when you are installing UMCxxx.DSK Netware driver.

For instance, the user wants to load UMC310.DSK with drive 0 speed 6 and drive 1 speed 11 which are attached on the primary controller. Add the following statement after the ":" prompt.

```
:LOAD UMC310 /D0:6 /D1:11 PORT=1F0 INT=E
```

You don't need to specify drive speed and Cylinder, Head, Sector parameters usually, because the device driver is reconfigured for the optimal speed setting and detect the Cylinder, Head, Sector automatically.

6) Install SCO UNIX Device Driver for VL-Bus IDE Controller

If you want to install SCO UNIX device driver for your system, please follow the steps below.

Type the following statements under UNIX system.

I) mkdir /UM8672.bin

II) cd /UM8672.bin

III) doscp a:unix.umd .

IV) `tar xf - < unix.umc`

V) `cd /UM8672.bin`

VI) `./istl.um8672`

If you want to remove SCO UNIX device driver from your system, please follow the steps below.

Type the following statements under UNIX system.

I) `cd /UM8672.bin`

II) `./rm.um8672`