SOLTEK ®

This User's Guide & Technical Reference is for assisting system manufacturers and end-users in setting up and installing the mainboard.

Every effort has been made to ensure that the information in this manual is accurate. Soltek Computer Inc. is not responsible for printing or clerical errors. Information in this document is subject to change without notice and does not represent a commitment on the part of Soltek Computer Inc.

No part of this manual may be reproduced, transmitted, translated into any language in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose without the express written permission of Soltek Computer Inc.

Companies and products mentioned in this manual are for identification purpose only. Product names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies.

Soltek computer inc. Provides this manual "As is " without war ranty of any kind, either express or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose. In no event shall Soltek computer inc. Be liable for any loss or profits, loss of business, loss of use or data, interruption of business, or for indirect, special, incidental, or consequential damages of any kind, even if Soltek computer inc. Has been advised of the possibility of such damages arising from any defect or error in this manual or product.

Model   :   SL-65DV
Edition :   March 2000
Version :   2.0

http://www.soltek.com.tw
e-mail: support@soltek.com.tw

CONTENT

SOLTEK

SL-65DV
VIA 82C693A SOCKET-370

F E A T U R E

■ PROCESSOR

- Supports Intel PPGA Celeron 370 / FC-PGA Pentium III (Coppermine) CPUs 300 ~ 750 MHz or higher.
- Supports 66/ 75*/ 83*/ 100/ 103*/ 105*/ 124*/ 133/ 140*/ 150*MHz system bus speeds.
- Clock multipliers up to 8x.

■ CHIPSET

- VIA 82C693A + 686A (133MHz FSB).

■ ONBOARD SOUND

- Built-In AC'97 Audio Codec.
- Supports Line-In, Mic-In, Speaker-Out / Line-Out connector and MIDI port.

■ SYSTEM MEMORY

- 3x 3.3V DIMM sockets.
- 8MB to 768MB DRAM size.
- ECC or Parity support.

■ SLOT

- 1x AGP slot supports 1x / 2x mode bus; 1x AMR (Audio Modem Riser)slot; 5x PCI Bus Master slots; 1x ISA slot.

■ ONBOARD I/O

- 2x Ultra ATA33/66 Bus Master IDE ports.
- 4x USB ports.
- 1x PS/2 mouse connector and 1x PS/2 keyboard connector.
- 1x 2.88MB Floppy port, 2x High Speed 16550A UART ports and 1x IrDA TX / RX Header.

■ POWER

- ATX power supply connector.
- Power-On by LAN(WOL), RTC Alarm, Modem Ring.

■ BIOS

- 2MB FLASH BIOS.
- Licensed AWARD BIOS, supports SCSI / ZIP / LS-120 / CD-ROM boot and ACPI Power Management.
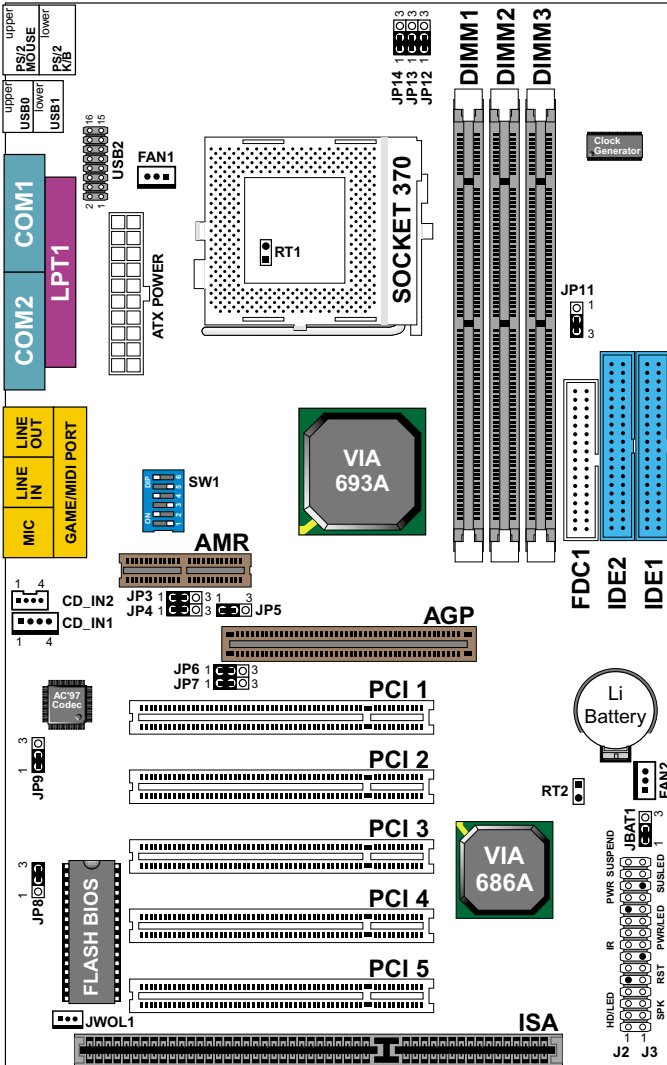
■ FORM FACTOR / PCB

- ATX, 4 layers PCB, 18.5cm x 30.5cm size.

■ OTHER FEATURES

- Hardware Monitor.
- Supports BIOS Writing Protection.

MOTHERBOARD DIAGRAM

Default setting: Intel Celeron 300A/66MHz; Pentium II/III 450/100MHz.

NOTE: For 100MHz/133MHz CPU environment, the SDRAM sepc must comply with PC-100/PC-133 spec.

CPU CLOCK SETTING

CPU Type Configuration

CPU MODEL	SW1	CPU RATIO
Celeron 233/66	ON (switch diagram 1-6)	3.5x
Celeron 266/66 Pentium III 533EB/133*	ON (switch diagram 1-6)	4.0x
Celeron 300/66 Pentium III 600EB/133*	ON (switch diagram 1-6)	4.5x
Celeron 333/66 Pentium III 500E/100* Pentium III 667B/133*	ON (switch diagram 1-6)	5.0x
Celeron 366/66 Pentium III 550E/100* Pentium III 733B/133*	ON (switch diagram 1-6)	5.5x
Celeron 400/66 Pentium III 600E/100*	ON (switch diagram 1-6)	6.0x
Celeron 433/66 Pentium III 650/100*	ON (switch diagram 1-6)	6.5x
Celeron 466/66 Pentium III 700/100*	ON (switch diagram 1-6)	7.0x
Celeron 500/66 Pentium III 750/100*	ON (switch diagram 1-6)	7.5x
Celeron 533/66	ON (switch diagram 1-6)	8.0x

* : Pentium III Coppermin FC-PGA CPUs.

SW1 DIP1 ~ DIP4: Bus Ratio Select

SW1 DIP1 ~ DIP4			
3.0x	ON — ON ON ON 1 4	6.0x	ON — ON ON OFF 1 4
3.5x	ON — ON OFF ON 1 4	6.5x	ON — ON ON OFF 1 4
4.0x	ON — ON ON OFF 1 4	7.0x	ON — ON OFF ON 1 4
4.5x	ON — ON OFF OFF 1 4	7.5x	ON — ON OFF OFF 1 4
5.0x	ON — OFF ON ON 1 4	8.0x	ON — OFF ON OFF 1 4
5.5x	ON — OFF OFF ON 1 4		

SW1 DIP5 ~ DIP6: Bus Clock Select

SW1 DIP5 ~ DIP6		JP11: FSB Select
66/100/133MHz Auto Select (default)	ON 1 2 3 4 5 6 OFF	1 3
100MHz	ON 1 2 3 4 5 6 OFF	1 3
133MHz	ON 1 2 3 4 5 6 OFF	1 3

JUMPER SETTING
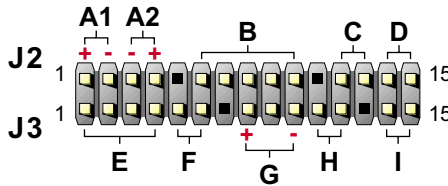
A1 : 1st HDD LED　　　　**A2 : 2nd HDD LED**
B. : INFRARED (IR)　　　　**C. : POWER SWITCH**
D. : NONE　　　　　　　　**E. : SPEAKER**
F. : RESET SWITCH　　　　**G. : POWER LED**
H. : NONE　　　　　　　　**I. : SUSPEND LED**

■ **FAN#: Onboard FAN (12V) Connector.**

FAN#	FUNCTION
FAN1	CPU FAN
FAN2	SYSTEM FAN

■ **JP3 / JP4: USB Port Select (1)**

USB Port Select	JP3 / JP4
Redirect USB port3 to USB2 connector (default)	
Redirect USB port3 to AMR	

■ **JP6 / JP7: USB Port Select (2)**

USB Port Select	JP6 / JP7
Redirect USB port2 to USB2 connector (default)	
Redirect USB port2 to AGP	

■ **JP5 / JP9: AC'97 Codec Control**

AC'97 Codec	JP5 / JP9
Disabled	JP5 ◻️◼️◼️ JP9
Enabled (default)	JP5 ◼️◼️◻️ JP9

■ **JP8: Power Lost Resume**
This feature must work with BIOS. Please refer to the BIOS "Power On After PWR-Fail" sector.

Power Lost Resume	JP8
Enabled	
Normal (default)	

■ **JP12 / JP13 / JP14: Intel / Cyrix CPU Select**

CPU Type	JP12	JP13	JP14
Intel CPU (default)			
Cyrix JOSHUA CPU			

■ **JBAT1: Clear CMOS Data**
Before you clear the CMOS data, it's necessary to turn the power off first (including +5V standby power). Otherwise, the system may work abnormally or malfunction.

CMOS Status	JBAT1
Retain Data (default)	
Clear CMOS Data	

■ CD_IN1/CD_IN2: CD-ROM Audio Connector

PIN #	CD_IN2	CD_IN1
PIN 1	GND	Left Channel
PIN 2	Left Channel	GND
PIN 3	GND	GND
PIN 4	Right Channel	Right Channel

■ RT2: Thermal Sensor Connector

■ GAME/MIDI Port:
Connect joystick or MIDI to this connector.

■ MIC :Microphone Jack
Connect to microphone device.

■ LINE IN: Audio In Jack
Connect audio line in.

■ LINE OUT/SPEAKER OUT: Audio Out Jack
Connect audio line out or speaker out.

■ JWOL1: Wake On LAN (WOL) Connector
This connector is designed to boot up system via LAN. Connect the wake on signal form the LAN card to this connector.

DRIVERS & SOFTWARES INSTALLATION

Onboard AC'97 Audio Codec Controller driver installation

For Windows95 / Windows98:
1. Go to CD-ROM directory, we suggest that's D:\.
2. Find and run D:\DRIVER\AUDIO\VIA AC97\SETUP.EXE or 68USR1XX.EXE
3. The installation will detect your O.S. to install relative files into your system.
4. Reboot the computer.

NOTE 1: IF USER WANTS TO USE EXTERNAL SOUND CARD, USER MUST RUN BIOS PROGRAM TO DISABLE "Onchip Sound" OPTION IN THE "Chipset Feature Setup" AND "Onboard Legacy Audio" OPTION IN THE "Integrated Pheripherals".

NOTE 2: UNDER WINDOWS 95, USER MUST INSTALL DirectX AND USBSUPP.EXE FOR AGP ENVIRONMEMT.

NOTE 3: "VIA Patch Code", "VIA AGP VxD Driver" & "VIA PCI IRQ Routing Miniport" installation, please refer to Appendix B.

This VIA 82C693A chipset comes with the AWARD BIOS from AWARD Software Inc. Enter the AWARD BIOS program Main Menu by:

1. Turn on or reboot the system. After a series of diagnostic checks, the following message will appear:

PRESS <DEL> TO ENTER SETUP

2. Press the <DEL> key and the main program screen will appear as follows:

ROM PCI/ISA BIOS (2A6LGSNC)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP/PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD SETUP DEFAULTS	SAVE & EXIT SETUP
	EXIT WITHOUT SAVING

Esc : Quit   ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup   (Shift)F2 : Change Color

3. Using the arrows on your keyboard, select an option, and press <Enter>. Modify the system parameter to reflect the options installed in your system.
4. You may return to the Main Menu anytime be pressing <ESC>.
5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

STANDARD CMOS SETUP

Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:
1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

```
                    ROM PCI/ISA BIOS (2A69KSNH)
                       STANDARD CMOS SETUP
                       AWARD SOFTWARE, INC.
```

Date (mm:dd:yy)	: Tue, Oct 19 1999							
Time (hh:mm:ss)	: 15 : 6 : 26							

HARD DISK	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :	Auto	0M	0	0	0	0	0	AUTO
Primary Slave :	Auto	0M	0	0	0	0	0	AUTO
Secondary Master :	Auto	0M	0	0	0	0	0	AUTO
Secondary Slave :	Auto	0M	0	0	0	0	0	AUTO

```
Drive A   : 1.44, 3.5 in.
Drive B   : None
                                    Base Memory :     640K
                               Extended Memory : 64512K
                                   Other Memory :     384K
Video     : EGA/VGA
Halt On   : All Errors
                                   Total Memory : 65536K

Esc  : Quit              ↑ ↓ → ← : Select Item      PU/PD/+/-  : Modify
F1   : Help            (Shift) F2 : Change Color
```

Date (mm:dd:yy) **Time (hh:mm:ss)**	Set the current date and time.
Primary (Secondary) **Master / Slave**	This field records the specification for all non-SCSI Hard Disk Drives installed in your system. Refer to the respective documentation on how to install the drives.
Drive A / B	Set the field to the type(s) of Floppy Disk drive(s) installed in your system. The choice: 360KB, 5.25in. 1.2MB, 5.25in. 720KB, 3.5in. 1.44MB, 3.5in. 2.88MB, 3.5in.
Video	Set the field to the type of video display card installed in your system. The choice: Monochrome, Color 40x25, EGA / VGA, (default) Color 80x25
Halt On	Set this warning feature for the type of errors that will cause the system to halt. The choice: All Errors, (defaults) No Errors, All But Keyboard, All But Diskette, All But Disk / Key

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

BIOS FEATURES SETUP

BIOS Features Setup allows you to improve your system performance or set up system features according to your preference.

Run the BIOS Features Setup as follows:
1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of options will appear.

```
                 ROM PCI/ISA BIOS (2A6LGSNC)
                     BIOS FEATURES SETUP
                    AWARD SOFTWARE, INC.

┌──────────────────────────────────────────────────────────────────────────┐
│ Virus Warning                : Disabled   Video  BIOS Shadow   : Enabled   │
│ CPU Internal Cache           : Enabled    C8000-CBFFF Shadow   : Disabled  │
│ External Cache               : Enabled    CC000-CFFFF Shadow   : Disabled  │
│ CPU L2 Cache ECC Checking    : Enabled    D0000-D3FFF Shadow   : Disabled  │
│ Processor Number Feature     : Disabled   D4000-D7FFF Shadow   : Disabled  │
│ Quick Power On Self Test     : Enabled    D8000-DBFFF Shadow   : Disabled  │
│ Boot Sequence                : A,C,SCSI   DC000-DFFFF Shadow   : Disabled  │
│ Swap Floppy Drive            : Disabled                                    │
│ Boot Up Floppy Seek          : Disabled                                    │
│ Boot Up NumLock Status       : On                                          │
│ IDE HDD Block Mode           : Enabled                                     │
│ Gate A20 Option              : Fast                                        │
│ Memory Parity/ECC Check      : Disabled                                    │
│ Typematic Rate Setting       : Disabled                                    │
│ Typematic Rate (Chars/Sec)   : 6                                           │
│ Typematic Delay (Msec)       : 250        ESC : Quit      ↑↓→← : Select Item│
│ Security Option              : Setup      F1  : Help   PU/PD/+/- : Modify  │
│ PCI/VGA Palette Snoop        : Disabled   F5  : Old Value  (Shift)F2 : Color│
│ OS Select For DRAM > 64MB    : Non-OS2    F7  : Load Setup Defaults        │
└──────────────────────────────────────────────────────────────────────────┘
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys. An explanation of the <F>keys follows:

<F1>: "Help" gives options available for each item.
<Shift> + <F2>: Change BIOS screen color.
<F5>: Get the previous values. These values are the values with the user started in the current session.
<F6>: Load all options with the BIOS default values.
<F7>: Load all options with the Setup default values.

15

Virus Warning Enabled: Activates automatically when the system boots up causing a warning message to appear if there is anything attempting to access the boot sector or Hard Disk partition table.
Disabled: No warning message will appear when there is something attempting to access the boot sector or Hard Disk partition table.

> **Note: Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.**

CPU Internal Cache Choose Enabled (default) or Disabled. This option allows user to enable or disable the CPU internal cache.

External Cache Choose Enabled (default) or Disabled. This option allows user to enable or disable the external cache memory.

CPU L2 Cache ECC Checking Choose Enabled (default) or Disabled.

Processor Number Feature Choose Enabled or Disabled (default).

Quick Power On Self Test Choose Enabled (default) or Disabled. This option allows user to speed up the Power-On-Self-Test routine.

Boot Sequence Default is "A , C, SCSI". This option determines which drive to boot at first for an operating system.

Swap Floppy Drive Default is "A, C, SCSI". This option determines which drive to boot at first for an operating system.

Boot Up Floppy Seek Enabled (default): During POST, BIOS checks the track number for Floppy Disk drive to see whether it's 40 or 80 tracks.
Disabled: During POST, BIOS will not check the track number for Floppy Disk drive.

Boot Up NumLock Status On (default): Activate the NumLock function at boot up.
Off: Close the NumLock function at boot up.

IDE HDD Block Mode Choose Enabled (default) or Disabled. If your hard disk is larger than 540MB, choose Enabled. If you are using IDE HDD AUTO DETECTION option, then BIOS will choose this option automatically.

> **Note: Some older model HDDs do not provide this feature.**

Gate A20 Option Choose Normal or Fast (default): This option allows the RAM to access the memory above 1MB by using the fast gate A20 line.

Memory Parity / ECC Check Choose Enabled or Disabled (default).

Typematic Rate Setting Choose Enabled or Disabled (default): Enable this option to adjust the deystroke repeat rate.

Typematic Rate (Char / Sec) Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.

Typematic Delay (Msec) Choose 250 (default), 500, 750 and 1000. This option sets the time interval for displaying the first and the second characters.

Security Option Choose System or Setup (default). This option prevents unauthorized system boot up or use of BIOS Setup.

17

PCI / VGA Palette Snoop	Choose Enabled or Disabled (default). It determines whether or not the MPEG ISA cards can work with PCI / AGP.
OS Select for DRAM > 64MB	Non-OS2 (default): For Non-OS/2 operating system. OS: For OS/2 operating system.
Video BIOS Shadow	Enabled (default): Map the VGA BIOS to system RAM. Disabled: Don't map the VGA BIOS to system RAM.
C8000-CBFFF to DC000-DFFFF Shadow	These options are used to shadow other expansion card ROMs.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

CHIPSET FEATURES SETUP

Chipset Features Setup changes the values of the chipset registers. These registers control the system options.

Run the Chipset Features Setup as follows:
1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

```
              ROM PCI/ISA BIOS (2A6LGSNC)
                 CHIPSET FEATURES SETUP
                   AWARD SOFTWARE, INC.

 ┌──────────────────────────────────────────┬─────────────────────────────────┐
 │ Bank 0/1 DRAM Timing  : SDRAM 10ns        │                                 │
 │ Bank 2/3 DRAM Timing  : SDRAM 10ns        │                                 │
 │ Bank 4/5 DRAM Timing  : SDRAM 10ns        │                                 │
 │ SDRAM Cycle Length    : 3                 │                                 │
 │ DRAM Clock            : Host CLK          │                                 │
 │ Memory Hole           : Disabled          │                                 │
 │ Read Around Write     : Enabled           │                                 │
 │ Concurrent PCI/Host   : Disabled          │                                 │
 │ System BIOS Cacheable : Disabled          │                                 │
 │ Video RAM Cacheable   : Disabled          │                                 │
 │ AGP Aperture Size     : 64M               │                                 │
 │ AGP-2X Mode           : Disabled          │                                 │
 │ OnChip USB1           : Enabled           │                                 │
 │ OnChip USB2           : Enabled           │                                 │
 │ USB Keyboard Support  : Disabled          │                                 │
 │ OnChip Sound          : Enabled           │ ESC : Quit      ↑↓→← : Select Item│
 │ OnChip Modem          : Disabled          │ F1   : Help     PU/PD/+/- : Modify│
 │                                           │ F5   : Old Value (Shift)F2 : Color│
 │                                           │ F7   : Load Setup Defaults        │
 └──────────────────────────────────────────┴─────────────────────────────────┘
```

Bank 0/1 2/3 4/5 DRAM Timing	This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs. The choice: EDO 50ns, EDO 60ns, Slow, Medium, Fast, Turbo
SDRAM Cycle Length	You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should have set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
DRAM CLOCK	The setting of this item must depend on the spec of PC100/PC133. For example, if user chooses HCLK + 33M, that means not only the motherboard but also the SDRAM needs to comply with PC-133 spec. Choice: Host CLK(default), HCLK-33M or HCLK+33M.
Memory Hole	Choose Enabled or Disabled (default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.
Read Around Write	DRAM optimization feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM. The choice: Enabled, Disabled
Concurrent PCI / Host	When disabled, CPU bus will be occupied during the entire PCI operation period. The choice: Enabled, Disabled
System BIOS Cacheable	Choose Enabled or Disabled (default). When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.

Video RAM Cacheable	Choose Enabled or Disabled (default). When enabled, the access to the VGA RAM addressed is cached.

AGP Aperture Size (MB)	Choose 4, 8, 16, 32, 64 (default), 128 or 256MB. Memory map and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S.

AGP-2X Mode	This item allows user to enable / disable the AGP-2x (133MHz clock) mode.

OnChip USB1	This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice: Enabled (default), Disabled

OnChip USB2	This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice: Enabled (default), Disabled

USB Keyboard Support	Enabled: Enables function when the USB keyboard is being used. Disabled (default): When the AT keboard is being used.

OnChip Sound	Enabled (default): Turn on AC'97 Codec chip controller. Disabled: Turn off AC'97 Codec chip controller. If user wants to use external sound card, this function must be disabled.

OnChip Modem	Enabled (default): Use MC99 feature. Disabled: Turn off MC99 feature. If user wants to use external modem, this function must be disabled.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

POWER MANAGEMENT SETUP

Power Management Setup changes the system power savings function.

Run the Power Management Setup as follows:
1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

```
                 ROM PCI/ISA BIOS (2A6LJSN9)
                 POWER MANAGEMENT SETUP
                   AWARD SOFTWARE, INC.
┌─────────────────────────────────────────┬──────────────────────────────────────┐
│ ACPI function          : Disabled        │ Primary INTR          : ON             │
│ Power Management       : User Define      │ IRQ3 (COM 2)          : Primary        │
│ PM Control by APM      : Yes             │ IRQ4 (COM 1)          : Primary        │
│ Video Off After        : Suspend         │ IRQ5 (LPT 2)          : Primary        │
│ Video Off Method       : V/H SYNC+Blank  │ IRQ6 (Floppy Disk)    : Primary        │
│ MODEM Use IRQ          : 3               │ IRQ7 (LTP 1)          : Primary        │
│ Soft-Off by PWRBTN     : Instant-Off     │ IRQ8 (RTC Alarm)      : Disabled       │
│ PWRON After PW-Fail    : Former-Sts      │ IRQ9 (IRQ2 Redir)     : Secondary      │
│ HDD Power Down         : Disabled        │ IRQ10 (Reserved)      : Secondary      │
│ Doze Mode              : Disabled        │ IRQ11 (Reserved)      : Secondary      │
│ Suspend Mode           : Disabled        │ IRQ12 (PS/2 Mouse)    : Primary        │
│         ** PM Events **                   │ IRQ13 (Coprpcessor)   : Primary        │
│ VGA                    : OFF             │ IRQ14 (Hard Disk)     : Primary        │
│ LPT & COM              : LPT/COM         │ IRQ15 (Reserved)      : Disabled       │
│ HDD & FDD              : ON              │                                        │
│ PCI Master             : OFF             │ ESC : Quit      ↑↓→← : Select Item     │
│ Modem Ring Resume      : Disabled        │ F1   : Help     PU/PD/+/- : Modify     │
│ RTC Alarm Resume       : Disabled        │ F5   : Old Value  (Shift)F2 : Color    │
│                                          │ F7   : Load Setup Defaults             │
└─────────────────────────────────────────┴──────────────────────────────────────┘
```

ACPI Function Enabled: Turn on ACPI function.
Disabled (default): Turn off ACPI function.

Power Management Choose Max. Saving, User Define (default), Disabled, or Min. Saving.

PM Control By APM Choose Yes (default) or No. You need to choose Yes when the operating system has the APM functions, otherwise choose No.

Video Off After Choose NA, Suspend, Standby (default) or Doze.

Video Off Method Choose Blank, DPMS or V/H Sync+Blank (default). You can choose either DPMS or V/H Sync+Blank when ther monitor has the Green function. You need to choose Blank when the monitor has neither the Green function.

Modem Use IRQ Assign the IRQ number to the modem which is being used so that the ring signal can wake up the system. The default setting is 3 (COM2).

Soft-Off By PWR-BTTN Instant-Off (default): Turn off the system power at once after pushing the power button.
Delay 4 Sec: Turn off the system power 4 seconds after pushing the power button (to meet PC97/98 spec)

PWRON After PW-Fail Choose Off (default), On, Former Sts.
Off: Disable Power Lost Resume function.
On: Enable Power Lost Resume function.
Former Sts.: Use former status.

> **Note: This function must work with JP8.**

HDD Power Down Time is adjustable from 1 to 15 minutes. When the set time has elapsed, the BIOS sends a command to the HDD to power down which turns off the motor.

23

Doze Mode This mode sets the CPU speed down to 33MHz.

Suspend Mode The option allows you to choose the mode for the different timer. The Suspend mode turns off the CPU and saves the energy of the system.

VGA When On of VGA, any activity from one of the listed system peripheral devices or IRQs wakes up the system.
Choice: On(default), Off.

LPT & COM When On of LPT&COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.
Choice: LPT/COM(default), NONE, LPT or COM.

HDD & FDD When On of HDD&FDD, any activity from one of the listed system peripheral devices wakes up the system.
Choice: On(default), Off.

DMA / master When On, any activity from one of the listed system peripheral devices wakes up the system.
Choice: On, Off(default).

Modem Ring Resume An input signal on the serial Ring Indicator (RI) Line (in other words, an incoming call on the modem) awakens the system from a soft off state.

RTC Alarm Rescume When Enabled, you can set the date and time at the which the RTC(Real Time Clock) alarm awakens the system from suspend mode.
Choice: Disabled(default), Enabled.

Primary INTR   When set to On, any event occurring at will awaken a system which has been powered down.
On(default): The system can not enter the power saving mode when I/O ports or IRQ# is activated.
Off: The system still can enter the power saving mode when I/O ports or IRQ# is activated.

The following is a list of IRQ's(Interrupt ReQuests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service.
When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

IRQ3 (COM2)
IRQ4 (COM1)
IRQ5 (LPT2)
IRQ6 (Floppy Disk)
IRQ7 (LPT1)
IRQ8 (RTC Alarm)

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

PnP/PCI CONFIGURATION SETUP

PnP/PCI Configuration Setup defines PCI bus slots.

Run the PnP/PCI Configuration Setup as follows:
   1. Choose "PnP/PCI CONFIGURATION SETUP" from the Main Menu and a screen with a list of options will appear.
   2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A6LGSNC)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

```
PNP OS Installed        : No          CPU to PCI Write Buffer  : Enabled
Resources Controlled By : Auto        PCI Dynamic Bursting     : Enabled
Reset Configuration Data : Disabled   PCI Master 0 WS Write    : Enabled
                                      PCI Delay Transaction    : Enabled
                                      PCI#2 Access #1 Retry    : Disabled
                                      AGP Master 1 WS Write    : Disabled
                                      AGP Master 1 WS Read     : Disabled

                                      Assign IRQ For USB       : Enabled
                                      Assign IRQ For VGA       : Enabled




                                      ESC : Quit       ↑↓→← : Select Item
                                      F1   : Help       PU/PD/+/- : Modify
                                      F5   : Old Value  (Shift)F2  : Color
                                      F7   : Load Setup Defaults
```

PNP OS Installed

Yes: OS supportsss Plug and Play function.
No (default): OS doesn't support Plug and Play function.

> **Note: BIOS will automatically diable all PnP resources**
> **except the boot device card when you select Yes on**
> **Non-PnP O.S.**

Resources Controlled By

Choose Manual (default) or Auto. The BIOS checks the IRQ/DMA channel number on the ISA and PCI card manually if you choose Manual. And the IRQ/DMA channel number will be checked automatically if you choose Auto.

Reset Configuration Data

Choose Enabled or Disabled (default). Disable retains Enabled PnP configuration data in BIOS and resets the PnP configuration data in the BIOS.

CPU to PCI Write Buffer

Choose Enabled(default) or Disabled.

PCI Dynamic Bursting

Choose Enabled(default) or Disabled .

PCI Master 0 WS Write

Choose Enabled(default) or Disabled .

PCI Delay Transaction

Choose Enabled(default) or Disabled .

PCI #2 Access #1 Retry

Choose Enabled or Disabled(default).

AGP Master 1 WS Write

Choose Enabled(default) or Disabled.

AGP Master 1 WS Read

Choose Enabled or Disabled(default).

27

Assign IRQ for USB	Enabled (default): Add one IRQ to USB controller. Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not be diabled (only IRQ was removed)

Assign IRQ for VGA	Enabled (default): Add one IRQ to VGA controller. Disabled: Remove IRQ from VGA controller. The system will have extra IRQ for other devices but the VGA controller will still not be disabled (only IRQ will be removed)

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

LOAD SETUP DEFAULTS

Load Setup Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically.

Choose this option and the following message will appear:

"Load Setup Defaults (Y/N)? N"

To use the Setup Defaults, change the prompt to "Y" and press <Enter>.

CPU SPEED SETTING

CPU Speed Setting option allows user to adjust CPU's settings and retain some informations inside computer when it is working.

Run the Integrated Peripherals as follows:
1. Choose "CPU SPEED SETTING" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

```
              ROM PCI/ISA BIOS (2A6LGSNC)
                     CPU SPEED SETUP
                  AWARD SOFTWARE, INC.
┌─────────────────────────────────────┬──────────────────────────────┐
│ Auto Detect DIMM/PCI Clk  : Disabled │                              │
│ Spread Spectrum           : Disabled │                              │
│ CPU Host Clock(CPU/PCI)   : Default  │                              │
│ Current CPU Temp.         :          │                              │
│ Current System Temp.      :          │                              │
│ Current CPUFAN1 Speed     :          │                              │
│ Current CPUFAN2 Speed     :          │                              │
│ Vcore :        2.5V :                │                              │
│ 3.3V  :          5V :                │                              │
│ 12V   :                              │                              │
│                                      │                              │
│                                      │                              │
│                                      ├──────────────────────────────┤
│                                      │ ESC : Quit    ↑↓→← : Select Item │
│                                      │ F1  : Help    PU/PD/+/- : Modify │
│                                      │ F5  : Old Value (Shift)F2 : Color │
│                                      │ F7  : Load Setup Defaults    │
└─────────────────────────────────────┴──────────────────────────────┘
```

Auto Detect DIMM/PCI clk Choose Disabled (default) or Enabled. The clock generator will turn off the DIMM clock if this slot is empty.

Spread Spectrum Choose Disabled (default) or Enabled. This function is designed to EMI test only.

CPU Host Clock (CPU/ PCI) Select the CPU Host Clock.
The choice: default, 66/33MHz, 75/37MHz, 83/41MHz, 124/31MHz, 133/33MHz, 140/35MHz, 150/37MHz.

Current CPU Temp. Shows temperature of the CPU.

Current System Temp. Shows the temperature of the system.

Current CPUFAN1 Speed Shows current speed of the FAN. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector.)

Current CPUFAN2 Speed Shows current speed of the FAN. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector.)

Voltage Shows power supply actual voltage value.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

31

INTEGRATED PERIPHERALS

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

Run the Integrated Peripherals as follows:
1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

<div align="center">

ROM PCI/ISA BIOS (2A6LGSNC)
INTEGRATED PERPHERALS
AWARD SOFTWARE, INC.

</div>

OnChip IDE Channel0	: Enabled	Onboard Parallel Port	: 378/IRQ7
OnChip IDE Channel1	: Enabled	Onboard Parallel Mode	: ECP/EPP
IDE Prefetch Mode	: Enabled	ECP Mode Use DMA	: 3
Primary Master PIO	: Auto	Onboard Legacy Audio	: Enabled
Primary Slave PIO	: Auto	Sound Blaster	: Disabled
Secondary Master PIO	: Auto	SB I/O base Address	: 220H
Secondary Slave PIO	: Auto	SB IRQ Select	: IRQ 5
Primary Master UDMA	: Auto	SB DMA Select	: DMA 1
Primary Slave UDMA	: Auto	MPU-401	: Disabled
Secondary MasterUDMA	: Auto	MPU-401 I/O Address	: 330H - 333H
Secondary Slave UDMA	: Auto	Game Port(200H - 207H)	: Enabled
Init Display First	: PCI Slot		
Onboard FDD Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4		
Onboard Serial Port 2	: 2F8/IRQ3	ESC : Quit ↑↓→← : Select Item	
UART 2 Mode	: Standard	F1 : Help PU/PD/+/- : Modify	
IR Function Duplex	: Half	F5 : Old Value (Shift)F2 : Color	
TX, RX inverting enable	: No, Yes	F7 : Load Setup Defaults	

OnChip IDE Channel 0 / 1

The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or second add-on IDE interface.
The choice: Enabled(default), Disabled.

IDE Prefetch Mode

Choose Enable(default), Disabled.

Primary Master/Slave PIO Secondary Master/Slave PIO

Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.

Primary Master/Slave UDMA Secondary Master/Slave UDMA

Enabled (default): Turn on the onboard IDE function.
Disabled: Turn off the onboard IDE function.

Init Display First

This option allows you to decide to activate PCI Slot or AGP first.
Choose PCI Slot(default), AGP.

Onboard FDC Controller

Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or choose Enabled to use the onboard FDD connector.

Onboard Serial Port1

Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled. Don't set port 1 & 2 to the same value, except when setting at Disabled.

Onboard Serial Port2

Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled.

UART 2 Mode   Choose Standard (default), HPSIR or ASKIR.

IR Function Duplex   The choice: Half (default), Full

TX, RX inverting enabled   Choose No, Yes (default) / No, No / Yes, No / Yes, Yes.

> **Note: The above 2 options won't work unless UART2 Mode HPSIR/ASKIR is selected.**

Onboard Paralle Port   Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5 or Disabled.

Onboard Parallel Mode   Choose Normal (default), ECP/EPP, SPP mode. The mode depends on the external device connected to this port.

ECP Mode Use DMA   Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function.

> **Note: This option will not be displayed unless the EPP/ECP is selected.**

EPP Mode Select   Choose EPP1.7 (default) or EPP1.9. EPP1.9 supports hardware handshake. This setting is dependent upon your EPP device.

> **Note: The above 2 options will not be displayed unless the EPP/ECP is selected.**

Onboard Legacy Audio   The choice: Enabled (default), Disabled.

Sound Blaster	Choose Enabled or Disabled (default). For DOS mode compatibility, this option must be enabled. In Windows system, this option must be disabled.
SB I/O Base Address	Use default setting.
SB IRQ Select	Use default setting.
SB DMA Select	Use default setting.
MPU-401	Choose Enabled or Disabled (default). Some feedback type joystick must enable this option (ex: Sidewinder joystick).
MPU-401 I/O Address	Use default setting.
Game Port (200-207H)	Use default setting.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

35

SUPERVISOR/USER PASSWORD

These two options allow you to set your system passwords. Normally, the supervisor has a higher ability to change the CMOS setup option than the user. The way to set up the passwords for both supervisor and user are as follows:

1. Choose "CHANGE PASSWORD" from the Main Menu and press <Enter>. The following message appears:

    "Enter Password:"

2. The first time you run this option, enter your own password up to 8 characters and press <Enter>. The screen doesn't display the entered characters.
3. After you entered the password, the following message appears prompting you to confirm the password:

    "Confirm Password:"

4. Enter the same password "exactly" as you just typed again to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there the next time you turn your machine on.
8. Press <ESC> to exit to the Main Menu.

> **Note: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by setting JBAT1. All setup information will be lost and back to default seting. You need to run the BIOS setup program and re-define all settings again.**

IDE HDD AUTO DETECTION

IDE HDD Auto Detection detects the parameters of an IDE Hard Disk drive and automatically enters them to the Standard CMOS Setup screen.

> The screen will ask you to select a specific Hard Disk for Primary Master after you selected this option. If you accept a Hard Disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next Hard Disk. This function allows you to check four Hard Disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

SAVE & EXIT SETUP

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

<div align="center">SAVE to CMOS and EXIT (Y/N)?   Y</div>

Press <Enter> key to save the configuration changes.

EXIT WITHOUT SAVING

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and following message appears:

<div align="center">Quit Without Saving (Y/N)?   N</div>

You may change the prompt to "Y" and press the <Enter> key to leave this option.

APPENDIX A

FLASH MEMORY UPDATE INSTALLATION

1. Download BIOS files and flash utility from your board vendor. They are: awdflash.exe and .bin file.
2. Copy them to bootable diskette and boot from diskette.
3. The diskette cannot include memory manager e.g. emm386.exe,qemm and himem.sys, otherwise there will appear an error message "insufficient memory".
4. Type "awdflash filename(XXXX.bin)".
5. Next screen will ask you save current bios to file or not? Depend on your diskette capacity, choose Y or N for this option.
6. Then screen ask you programming the flash memory now? type Y for this option.
7. Programming finish,utility will ask you reboot system.
8. Reset system and press DEL key enter bios setup screen.
9. Select LOAD SETUP DEFAULTS, press ENTER, press Y, press F10, press Y
10. Finish update procedure.

APPENDIX B   DRIVER INSTALLATION

If you are using Windows 98 SE**, you do not need to install the** 4-in-1 driver **as the IRQ Routing Driver and the ACPI Registry are already incorporated into the operating system. Users with Windows 98 SE may update the IDE Busmaster and AGP drivers by installing them individually.**

PART 1:

1. Put the CD into your CD-ROM.
2. There appears a welcome window.
   (If doesn't, it means that your CD-ROM auto-run function does not enable, but you still can browser the CD via Windows Explorer and change the directory to where your CD-ROM directory is. Then run the **autorun.exe**)
3. Select "**Install Driver**".
4. Select "**Install VIA Chipsets Driver**".
5. Select "I**nstall 4in1 Driver**".
6. Then the program will automatically setup all drivers your system needs.
7. Finally, the system will re-boot.

> *NOTE: AFTER INSTALLED "* 4in1 Driver*", USER DOESN'T NEED TO INSTALL ANY OTHER PROGRAM IN PART 2.*

PART 2:

CAUTION!! ALL THE VIA MAINBOARD MUST INSTALL FOLLOWING 3 DRIVERS!!!

VIA Patch Code Installation

Windows95/Windows98:
1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Patch\Via\patch9x\Setup\Setup.exe
3. Select "Install VIA Chipset Functions' Registry", then it will automatically install this program.
Note! This program should be installed before any other VIA's drivers.

VIA AGP VxD Driver for Windows 9x Installation

Windows95/Windows98:
1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Driver\Via\Agp\Setup\Setup.exe
3. Select "Install VIA AGP VxD in turbo mode" or "Install VIA AGP VxD normal mode", then it will automatically install this program.

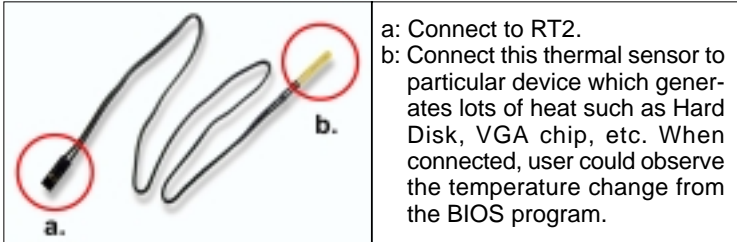## VIA PCI IRQ Routing Miniport for Windows 9x Installation

Windows95/Windows98:

1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Patch\Via\Virq9x\Setup.exe

Note: Before install Windows98, user must enable two functions for this miniport driver in the BIOS menu, one is "*OnChip USB***" in the "Chipset Features Setup" and another is "***Assign IRQ for USB***" in the "PNP/PCI Configuration Setup".**

APPENDIX C   THE USAGE OF RT2

■ Thermal Sensor Connector

a: Connect to RT2.
b: Connect this thermal sensor to particular device which generates lots of heat such as Hard Disk, VGA chip, etc. When connected, user could observe the temperature change from the BIOS program.

■ VIA Hardware Monitor Setup
  1. Make sure that the CD is in the CD-ROM.
  2. There will appear a welcome window, please use the mouse to choose "**Install Driver**" item.
  (If not, that means user's CD-ROM autorun function is disabled, but user could still install the program via Windows Explorer.)
  3. Choose "**Install VIA Chipset Driver**" item, then choose "**Install VIA Hardware Monitor**" item.
  4. The setup program will install Hardware Monitor software automatically.