Vario L2

Small Form Factor PC

User Guide

Document Reference: Product User Guide

Document Issue: 1.0

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Picture 1: Vario L2

Section 1 - Introduction

The Vario L2 is the latest in a line of successful Plasma Engines designed and manufactured in the United Kingdom by Blue Chip Technology.

The Vario L2 is a powerful slim-line AMD Socket AM2 based Personal Computer (PC) specifically designed to drive large plasma and other large display panels. The unit is self-contained requiring as a minimum, only a power connection and a display. The applications are not limited to display applications: it may be used as a general purpose PC.

The basic unit comprises a highly integrated computer board employing AMD 690G Northbridge chipset and the SB600 Southbridge chipset with ATI Radeon Xpress 1250 integrated graphics feature. The computer board supports the AMD Athlon 64 X2 Dual-core / Athlon 64 / Sempron Processor with Front Side Bus frequencies of 1000 MHz (2000 MT/s). Memory options allow up to of 2GB (2 x 1GB SO-DIMMs) of ultra fast non-ECC & unbuffered DDR2 667/533/400 200-pin SO-DIMM. Storage is provided by a single 3½-inch Serial ATA II 3Gb/s hard disk drive or by use of optional Compact Flash.

The unit is housed in a strong sheet-steel enclosure providing both mechanical and EMC protection. Fans draw cooling air into the unit and direct it through the chassis to ensure a wide operating temperature range. The unit may be mounted on the plasma display, or separately to suit the particular installation

A universal Mounting kit is available for attachment to plasma displays, wall or desktops.

All connectors are on the Front face of the chassis. There are connectors for a standard VGA display, a standard Digital Display, a High Definition Multimedia Interface (HDMI) port, TV-Out connector, 4 USB (2.0) ports, an Ethernet (10/100/1Gb) LAN port, a 1394a Firewire port, one serial port, SPDIF IN/SPDIF Out connectors and HD Audio ports. The on-board High Definition Audio codec (ALC883) supports high quality performance 8-channel audio play (Super 7.1 Channel Audio Effect)

The DC power jack is also on the front face. An OD5.5mm and ID2.5mm short termination plug is required to connect to this. An optional AC/DC Power Module can be provided with the unit.

External indicators and controls on the front face of the chassis are limited to a hard drive activity LED, a power on LED and a power/standby push-button switch. The LAN connector also includes LEDs indicating a connection and data rate.

Copyright

Limitations of Liability

Trademarks

Regulatory Statements

CE

This product meets the essential protection requirements of the European EMC Directive **(2004/108/EC)** and its amending Directives, and the Low Voltage Directive **(2006/95/EC)**, and is eligible to bear the CE mark.

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING:

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Safety Warning for North America

If the power lead (cord) is not supplied with the computer, select a power lead according to your local electrical regulations. In the USA use a 'UL listed' lead. In Canada use a CSA approved or 'cUL listed' lead.

Si le cordon secteur n'est pas livré avec l'ordinateur, utiliser un cordon secteur en accord avec votre code electrique nationale. En l'Etat Unis utiliser un cordon secteur 'UL listed'. En Canada utiliser un cordon secteur certifié CSA, ou 'cUL listed'.

Manual Organisation

This manual describes in detail the Vario L2 range of Small Form-Factor PCs.

We have tried to include as much information as possible but we have not duplicated information that is provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of the product.

The manual is sectioned as follows:

1. Introduction
2. Quick Start
3. General Precautions
4. Product Specifications
5. Installation, including Layout, connector details and what software to install
6. Bios Setup
7. Maintenance details

We strongly recommend that you study this manual carefully before attempting to interface with the Vario L2(SBC) or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance. *IT IS PARTICULARLY IMPORTANT THAT YOU READ THE SECTION 'GENERAL PRECAUTIONS' BEFORE HANDLING ANY COMPONENTS INSIDE THE UNIT.*

If you have any suggestions or find any errors concerning this manual and want to inform us of these, please contact our Technical Services department with the relevant details.

Section 2 - Quick Start

The Vario L2 Small Form-Factor PC is designed to require minimal intervention from the customer once the OS has been installed and activated.

First ensure that you are familiar with the contents of the section "General Precautions". It contains important information to avoid damage to the board.

Usually the unit is supplied with a factory image containing a Microsoft Operating System. In this instance, all that is required to get going is

- USB Keyboard and mouse
- Display
- Power
- Lan connection (if OS activation is required)

When the unit is first powered on, it will prompt the user to follow the Microsoft mini setup process. All relevant drivers will already have been installed.

It's then a case of installing your application(s) and data, and you're ready to go.

Universal Mounting Bracket

Picture 2: Universal Mounting Bracket

If ordered, one or two Universal Mounting bracket(s) can be supplied. The bracket will be attached as shown in Picture 2 above, and to use, remove the screws, turn the bracket 180˚, then re-insert the screws. The bracket can be fitted to either end of the unit as required.

Section 3 - General Precautions

The electronics inside the Vario L2 is susceptible to damage by electrostatic discharges. In order to avoid damage, you should work at an anti-static bench and observe normal anti-static precautions. Wear an anti-static wrist strap connected to an earth point *before* opening any packaging.

Where a wrist strap is not available, discharge any static charge you may have built-up by touching an earth point. Avoid any further movement that could build up another static charge. Touch an earth point from time to time to avoid further build-up, and remove any items from their anti-static bags only when required

Electro-Static Discharges

If you are going to open up the unit, it is important to realise that the devices on the cards within this unit can be damaged by static electricity. Bear in mind that the damage caused by static electricity may vary from total destruction to partial damage, which may not be immediately obvious. This could have an effect on the product's reliability and warranty. Before opening the chassis, ensure that you take necessary static precautions. Ideally you should work at an anti-static bench and wear an approved wrist strap or if that is not possible, touch a suitable ground to discharge any static build up before touching the electronics. This should be repeated if the handling continues for any length of time.

If it is necessary to remove a board or electronic assembly, place it into an anti-static bag. This will prevent any static electricity build up damaging the board. Metallised bags are preferred. Do not use black anti-static bags for any item containing a battery because these tend to be conductive and will discharge the battery.

On-Board Battery

The processor board is fitted with a Lithium battery. Great care should be taken with this type of battery. If the battery is mistreated in any way there is a very real possibility of fire, explosion, and personal harm. Under NO circumstances should it be short-circuited, exposed to temperatures in excess of 100C or burnt, immersed in water, recharged or disassembled.

Expired batteries remain hazardous and must be disposed of in a safe manner, according to local regulations.

Le panneau de processeur est équipé d'une batterie de lithium. Le grand soin devrait être pris avec ce type de batterie. Si la batterie est mistreated il y a de dans de toute façon un possibility très vrai du feu, d'expolosion et de mal personnel. Dans au cunes circonstances il est sous peu circuité, exposé aux températures au dessus de 100 degrés de centrigrade ou brûlé, immergé dans l'eau, rechargée ou dissassambled.

Les batteries expirées restent dazaedous et doivent être reejetées d'une façon sûre, selon des règlements locaux.
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BIOS & CMOS Memory

Please be aware that with personal computer products, it is possible to create configurations within the CMOS memory that make booting impossible. If this should happen, clear the CMOS settings; (see the description of the Jumper Settings for details).

Electromagnetic Compatibility

This product meets the requirements of the European EMC Directive and its amending Directives, and the Low Voltage Directive. It is eligible to bear the CE mark. However, because the unit can be installed in a wide variety of situations, certain conditions have to be applied to ensure that the compatibility is maintained. Subject to those conditions, it meets the requirements for an ITE Class A product.

- The VARIO L2 must be supplied with a clean AC supply, and the chassis should be connected to a sound earth (ground). As a minimum the power cord must be connected to an earthed (grounded) supply or outlet.
- Any additional items installed or used with the Vario L2 should carry appropriate approvals
- When installing additional items, any recommendations made by the component manufacturer/supplier must be complied with regarding earthing and the installation.
- The metal back plate of any expansion card must be securely screwed to the chassis of the computer to ensure good metal-to-metal (i.e. earth) contact.
- All connector bodies must be securely connected to the enclosure.
- Most EMC problems are attributable to the cabling. It is recommended that screened cabling is used wherever possible, and that the screen of the cable connects to the metal end bracket of the board or the enclosure and hence to earth. Round, screened cables with a braided wire screen should be used in preference to those with a foil screen and drain wire. Use metal connector shells that connect around the full circumference of the cable screen: they are far superior to those that earth the screen by a simple "pig-tail" connection. This method attempts to extend the enclosure around the connecting cables, thereby trying to surround the whole of the internal equipment and external cabling.
- The keyboard and mouse will play an important part in the compatibility of the processor card since they are ports into the board. Similarly, they will affect the compatibility of the complete system. Fully compatible peripherals must be used otherwise the complete system could be degraded. They may radiate or behave as if keys/buttons are pressed when subject to interference. Under these circumstances it may be beneficial to add a ferrite clamp on the leads as close as possible to the connector.
- USB cables must be high quality screened types suitable for USB 2.0, and peripherals must be approved to equivalent EMC standards.
- Where possible ensure that the screens of any external cables are also bonded to a good RF earth at the remote end of the cable.

Failure to observe these recommendations may invalidate the EMC compliance.

Section 4 – Product Summary

Specification

CPU: AMD Athlon 64; AMD Athlon 64 X2

Chipset: Northbridge: AMD 690G
                                  SouthBridge: ATI SB600
                                  I/O Controller – ITE IT8712F
                                  IEEE 1394 – VIA VT6307
                                  HD Audio Codec – Realtek ALC883
                                  Gbit LAN – Marvel 88E8056
                                  Graphics – ATI Radeon Xpress 1250

Memory: DDR2 200 pin SO-DIMM (2 sockets)
                                  2Gb Maximum capacity
                                  Supports non-ECC& unbuffered DDR2 667/533/400 SO-DIMMs

Expansion: One PCI slot – rev 2.3 compliant
Note: Due to power supply constraints, check with Blue Chip Technology Support for details of supported cards

Storage: SATA HDD   ⌐

                                  Compact Flash   ⌐ Choice configurable at time of order

Connectors;   One IEEE 1394 port
                                  One Gbit LAN Port
                                  • Supports 10/100/1000 Mbps Ethernet LAN
                                  One coaxial S/PDIF In
                                  One coaxial S/PDIF Out
                                  One RCA S/PDIF Out
                                  One TV_OUT connector
                                  One VGA (D-Sub) connector
                                  One HDMI port
                                  HD Audio port
                                  • 8/6/4/2 channel playback capability
                                  • Jack sensing and re-tasking support
                                  • Dolby Digital Live Technology
                                  Four USB 2.0 ports
                                  One power jack

Hardware monitor: CPU/Chassis Fan Speed
                                  CPU and System Temperatures
                                  System Voltages

Indicators: Power On LED, Hard Drive Activity LED, LAN Speed and Activity LED's

Control: Power standby pushbutton switch

Power: 120W PICO 12V DC Internal Power Supply
                                  External power via OD5.5mm, ID2.5mm short Jack Socket
Note: the plug should be no longer than 10mm long to avoid damaging the socket housing

Environmental: Operating Temperature range 0˚C to +40˚C
                            Storage Temperature range -20˚C to +70˚C
                            Relative humidity 10-85% non-condensing
                            Shock and vibration compatible with light industrial usage

Note: Operating Temperature range is for the basic unit. This figure may be affected by any expansion card fitted.
Contact Blue Chip Technology to discuss any specific requirements.
Units with mechanical moving parts such as HDD's fitted, should not be bpowered on whent he ambient temperature is below 5˚C

Construction: Painted zinc-plated sheet steel, welded and riveted construction

Dimensions;   300 x 200 x 57 mm, excluding mounting brackets
                            Note that at least 60mm is required to allow easy access to the cable connectors

                            Air vents must not be obstructed. A minimum gap of 25 mm between side vents and
                            any adjacent items is recommended. A minimum gap of 45mm above the top of the
                            chassis is also required

Picture 3: Vario L2 Dimensions

Section 5 - Installation

External Connectors
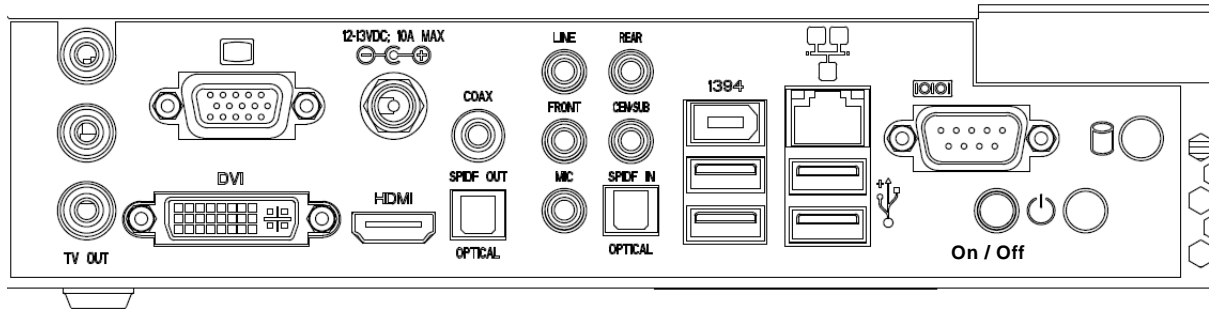
Picture 4 connectors

The above picture shows the connectors on the front of the Vario L2 unit. Usually, to operate the unit, the following connections will be required

- Power - Jack Socket
- Keyboard – USB x 1
- Mouse – USB x 1
- Display – VGA or DVI or HDMI
- Network – RG45 Shielded Socket

Internal Connections
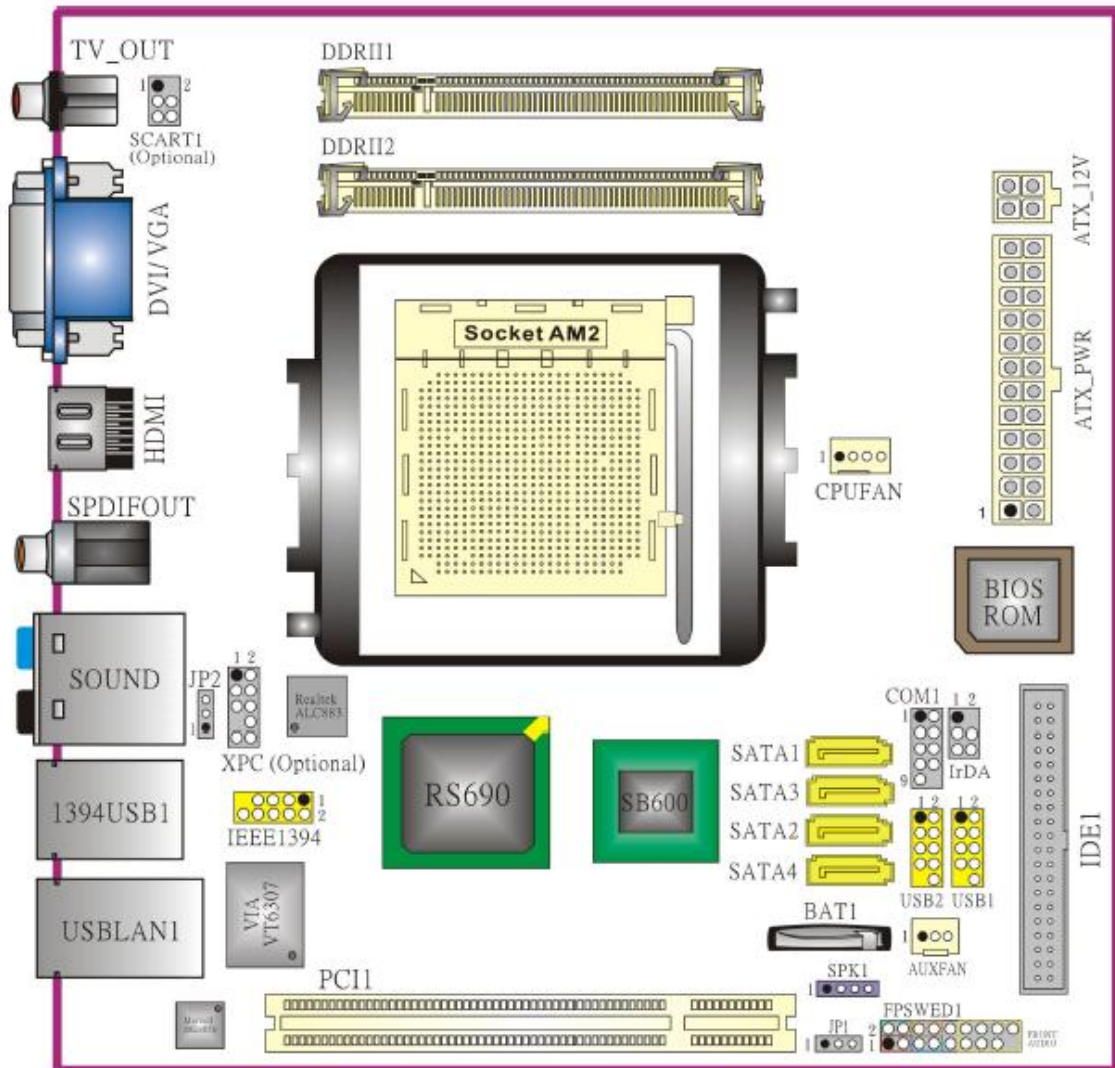
Picture 5: Motherboard Layout

Jumper Locations

The processor board used in the VARIO ELITE PC is largely free of selection jumpers. Most settings are controlled from the BIOS, and stored in the CMOS memory.

Only the following jumpers are significant.

CMOS Clear

The CMOS clear jumper JP1 is located at the end of the PCI slot.

Position	Function
1 - 2	Normal Operation
2 - 3	Clears CMOS

This is used when the CMOS settings have become corrupt or if you have forgotten your password. Clear CMOS resets the BIOS to its default conditions

Software Setup and Drivers

Your Vario L2 Small Form-Factor PC may have been supplied complete with a software operating system, in which case the appropriate drivers will have been loaded.

If it has been supplied without an operating system, one must be loaded following the instructions supplied with the software. It is then necessary to add driver programs for the specific hardware of the motherboard and any additional expansion cards. The manner in which the drivers are loaded will vary depending upon the actual operating system used

The following section gives details of where to find the necessary drivers and the order in which to install them

Windows XP Professional

Drivers for Vario L2 unit can be found on the Support CD supplied with unit in the following folder
.. \Drivers\Vario L2
Drivers can be installed int he following order

1 – Dot Net framework
This is required in order to fully install the Graphics driver, which is part of the chipset driver
To install this run
.. \Drivers\Vario L2\dotnetfx.exe

2 – Chipset
This includes the graphics driver
To install this run
.. \Drivers\Vario L2\chipset.exe
This driver includes games links as well as registration forms, so it is advisable when prompted to select Custom Install and install only the drivers which are required

3 – Network
To install this run
..\Drivers\Vario L2\LAN\SetupCPwin.exe

4 - Audio
There are two stages to this, first install the Audio driver by running
..\Drivers\Vario L2\Audio\setup.exe
During this install, the New Hardware Detected windows will open in the background. Ignore these, as the driver will automatically take care of these. After the required reboot, run
..\Drivers\Vario L2\HDAudio\setup.exe
This will finalise the audio setup

Upgrading the System Hardware

Warning

Before attempting any upgrade to the Vario L2 computer, please read the section "**Precautions**". For your personal safety it is important that you ensure that the unit is switched off, and the DC supply is disconnected. Remember that the unit incorporates an ATX-type of power supply unit. Switching the power off using the front panel switch does not isolate the DC supply, and under these conditions the +5V DC standby power is still connected to the motherboard.

For the safety of the equipment, it is important that you observe electrostatic discharge precautions. Do not remove new items from their anti-static bags until necessary.

When making any internal changes to the computer, it is imperative that the internal cables follow the original routes and additional cables are installed as described. Failure to observe this requirement could restrict the airflow through the unit and cause overheating problems.

Upgrade Options

The user may upgrade the unit by adding more memory or a faster CPU to the unit. Before upgrading, please check with Blue Chip Technical support by emailing Support@bluechiptechnology.co.uk to find out if your proposed upgrade is supported.

PCI Options
The unit incorporates only a 120W Pico Power Supply. As such, great care should be used if trying to select and fit a PCI adapter card, as there may not be enough system power available to allow it to operate reliably

Please contact Blue Chip Technology Technical support at the above email address to discuss your proposed addition.

Removing the System Cover
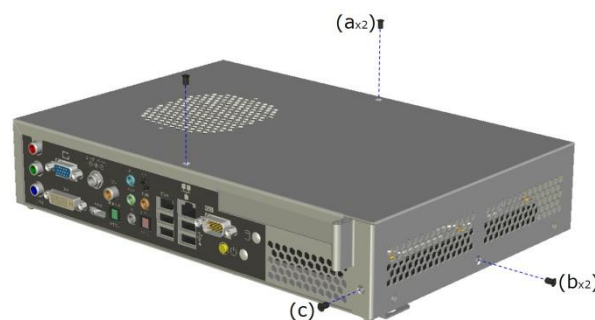
Picture 6: System Cover

The cover is held in place by 5 screws as shown in Picture 6

Removing the CPU Fan Plate
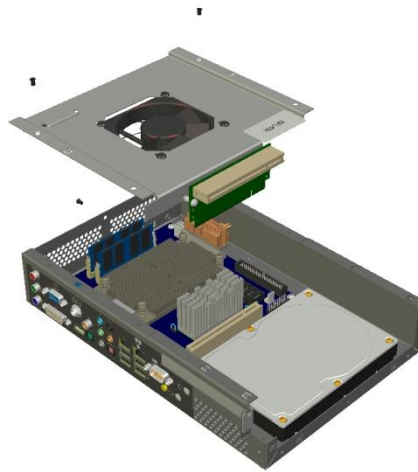
Picture 7: CPU Fan Assembly

In order to gain access to the Motherboard, it is necessary to remove the Fan Cover Assembly. This is held in place by the 3 screws shown in Picture 7. The assembly should be removed and replaced in an upwards direction to allow the smooth removal of the PCI riser card from the on-board PCI slot.

Removal of the HDD or Compact Flash Holder
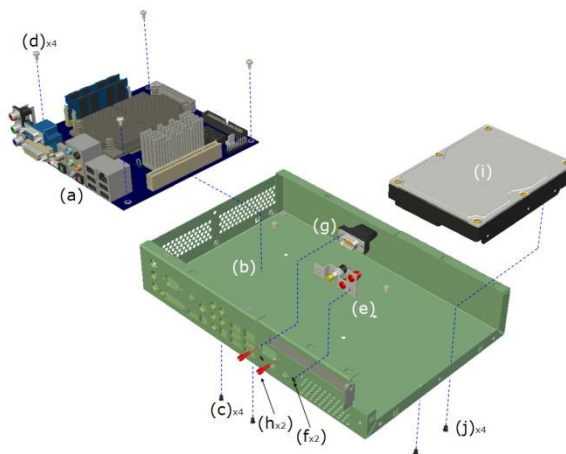
Picture 8: HDD removal

The HDD is held in place by 4 screws accessed from the base of the Unit
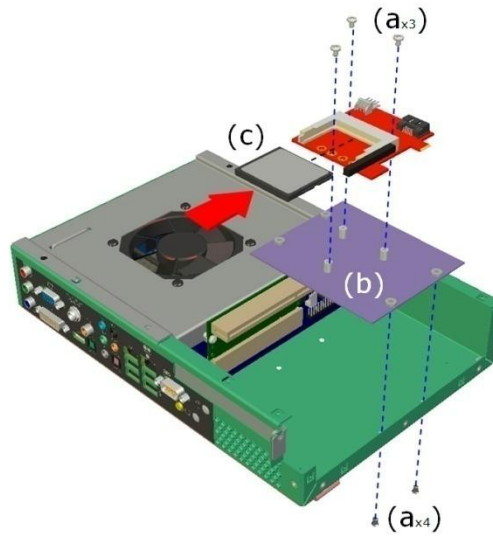
Picture 9: Compact Flash

The compact Flash Adapter is mounted onto a plate which utilises the same mounting holes and screws as the HDD. Consequently, only one of these items can be fitted at any one time

PCI Device Removal
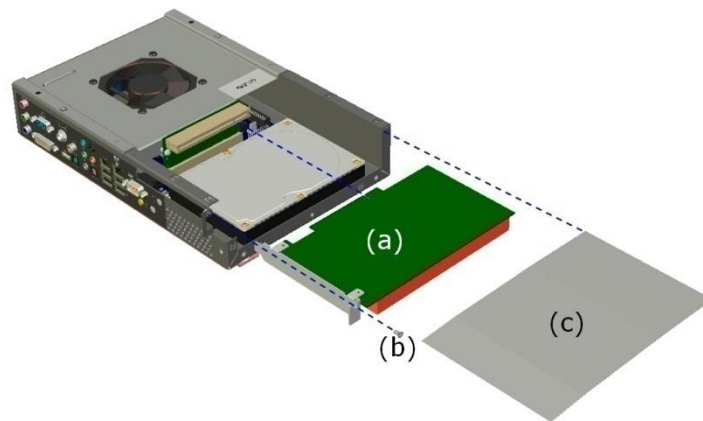
Picture 10: PCI Devices

Before PCI Devices (shown as A in Picture 10 above) can be removed, it is necessary to remove screw B and Insulator C. The Insulator is to prevent any pins or components on the rear of the PCI card from shorting against the LID.

Note: PCI card options are only available at time of order. If ordered without PCI expansion, the Riser card and insulator will not be supplied

Memory and/or CPU Removal
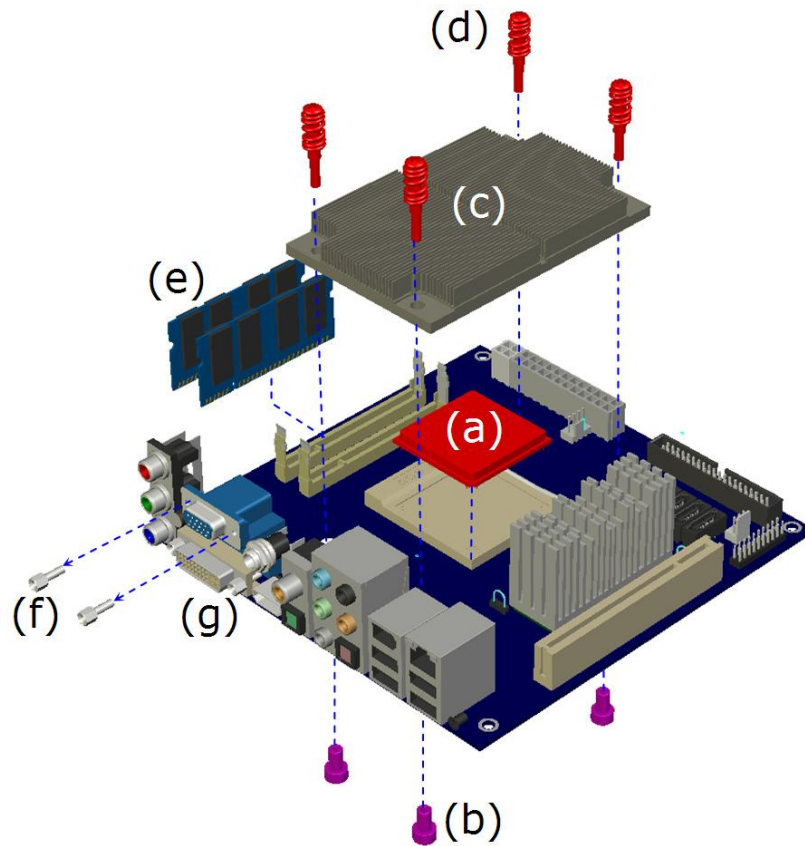
Picture 11: Memory and CPU

Access to the Memory slots is gained as soon as the Fan Assembly cover is removed.

To access the CPU, the Heatsink must first be removed, by unscrewing the 4 screws marked D in Picture 11 above.

Section 6 – BIOS SETUP

BIOS Setup

To enter the BIOS setup Pages, press <DEL> during POST.

Navigation through the different menus is via the Arrow Keys as explained in the bottom panel. Up/Down arrows navigate through the items in a particular menu, and Left/Right arrows navigate between Menu's.

If entering a sub-menu, <esc> will take you back up to the previous level.

Pressing <F6> at any time sets the BIOS to its Default settings, and pressing <F10> at any time will prompt to Save the settings prior to exit. The Vario L2 will then reboot and load the desired settings.

↑↓→↓: Move Enter: Select +/-/PU/PD: Value	F10: Save	ESC: Exit	F1 General Help
F5: Previous Values	F6: Default Settings		F7: Turbo Settings

Figure A: Navigation Keys

Warning: Selecting the wrong settings may cause system instability.

If this occurs, enter BIOS and select Default Settings

The following section provides the options available under the different menu's.

Main Setup page
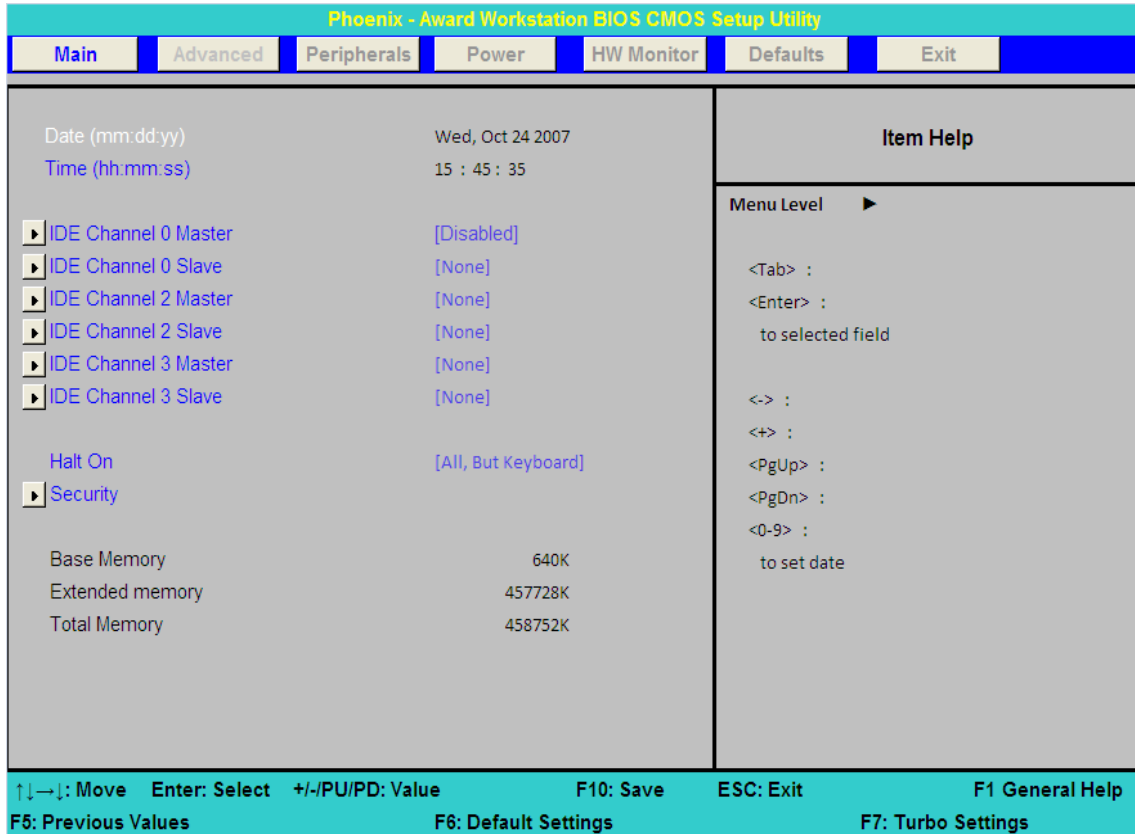
Figure B: Main Setup Page

Figure A shows the options available under the Main section with their default values.

IDE Channel Options:
Channel 0 refers to Parallel ATA, and Channel 2 and 3 refer to Serial ATA. By selecting the particular channel, default Automatic recognition can be turned off and settings can be manually entered.

Halt On
This feature selects the situation in which you want the BIOS to stop the POST process and notify of errors

Options are: All errors; No errors; All, but keyboard; All, but diskette; All, but dikette.Keyboard

Security
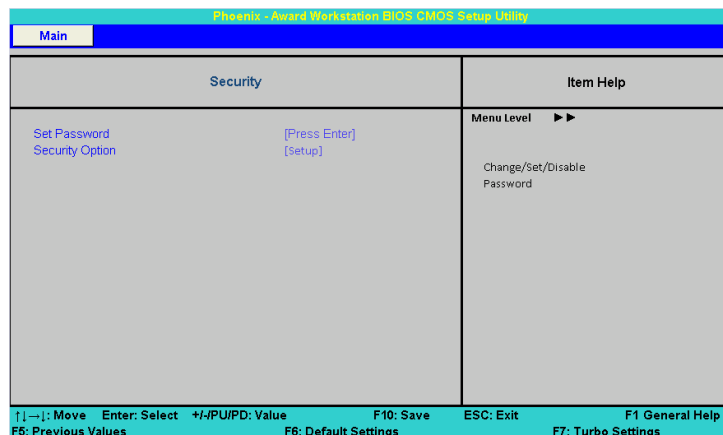
Figure C: Security sub-menu

The Security sub menu allows the user to set/disable passwords for entering the BIOS and for booting the unit

Memory

This area shows the amount of conventional memory detected during boot, the amount of extended memory detected and the total memory available in the system

Advanced Setup Page
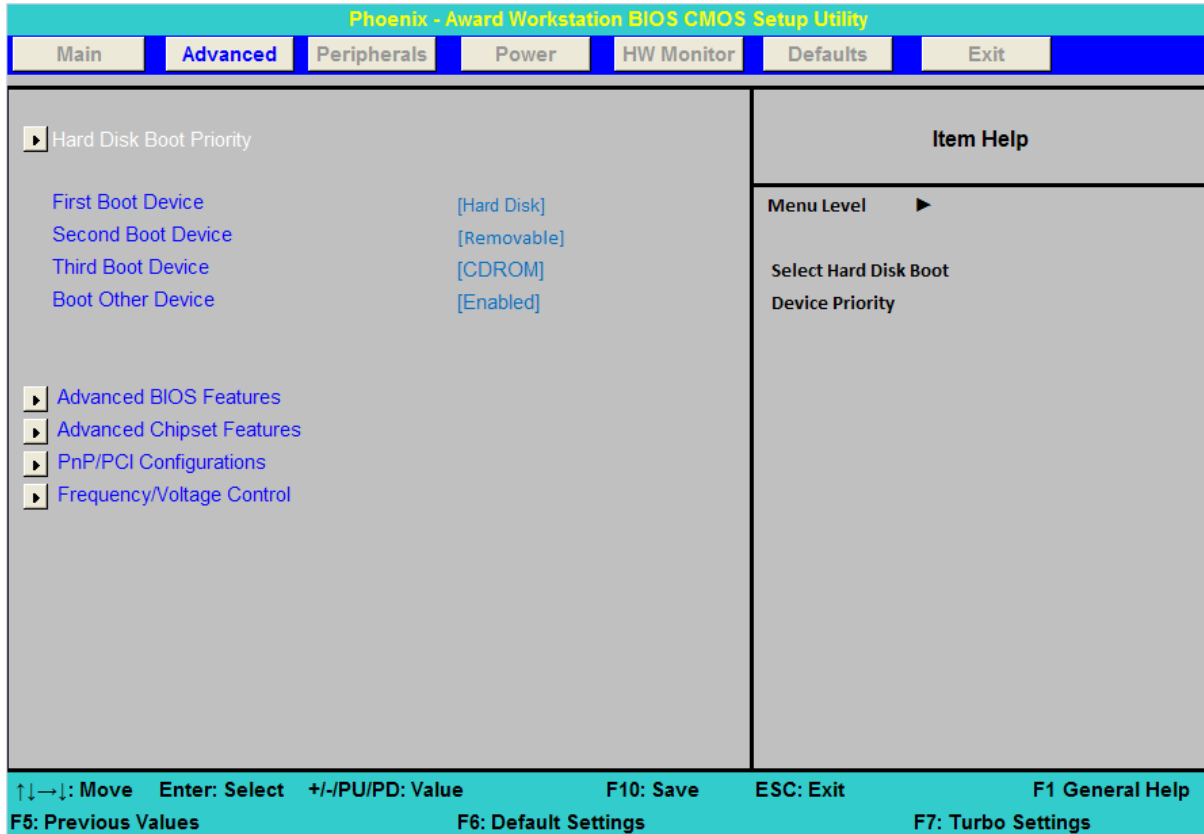
Figure D: Advanced Menu

The following options do not have a sub-menu

First Boot Device: Set to HDD

Second Boot Device: Set to either removable or CDROM

Third Boot Device: Set to either removable or CDROM

Boot Other Device: Set to Enabled if you want the BIOS to search for other boot devices if it can't find a boot device on the first three devices. Otherwise set to Disabled

The following options have a sub-menu for setup

- Hard Disk Boot Priority
- Advanced BIOS Features
- Advanced Chipset Features
- PnP/PCI Configuration
- Frequency/Voltage Control

Hard Disk Boot Priority

This section allows the user to pre set the boot order if more than one HDD is present. Some USB Flash devices are regarded as "HDD's" by the BIOS.

TIP:

During POST, if the <ESC> key is pressed, the BIOS automatically shows a temporary BOOT menu. If there are two "HDD" devices present in the unit, then by selecting "HDD" at the menu, the user will be presented with a choice of which "HDD" to boot to. Using this method, there is no need to enter BIOS to change the normal boot order.

Advanced BIOS Features

```
         Phoenix - Award Workstation BIOS CMOS Setup Utility
 ┌──────────────┐
 │  Advanced    │
 └──────────────┘
 ┌─────────────────────────────────────────┬──────────────────────────┐
 │       Advanced BIOS Features             │       Item Help          │
 ├─────────────────────────────────────────┼──────────────────────────┤
 │  Virus Warning               [Disabled] │  Menu Level    ▶         │
 │  CPU Internal cache          [Enabled]  │                          │
 │  External Cache              [Enabled]  │    Allows you to choose  │
 │  Quick power On Self Test    [Enabled]  │    the VIRUS warning     │
 │  Boot Up numlock Status      [On]       │    feature for IDE hard  │
 │  Typematic Rate Setting      [Disabled] │    Disk boot Sector      │
 │  Typematic Rate (Chars/Sec)  6          │    protection. If this   │
 │  Typematic delay (Msec)      250        │    function is enabled   │
 │  APIC mode                   Enabled    │    and someone attempts to│
 │  MPS Version Control for OS  [1.4]      │    write data into this area, │
 │  OS Select for DRAM > 64MB   [Non-OS2]  │    BIOS will show         │
 │  HDD S.M.A.R.T. Capability   [Disabled] │    a warning message on   │
 │                                         │    screen and alarm beep  │
 │                                         │                          │
 │                                         │                          │
 │                                         │                          │
 │                                         │                          │
 └─────────────────────────────────────────┴──────────────────────────┘
 ↑↓→↓: Move   Enter: Select   +/-/PU/PD: Value      F10: Save   ESC: Exit        F1 General Help
 F5: Previous Values                    F6: Default Settings       F7: Turbo Settings
```

Figure E: Advanced BIOS features

Virus Warning – Options Disabled (Default), Enabled
This option allows you to choose the Virus warning feature for the HDD boot sector protection. If tis functi is enabled and a program attempts to write data into this area, BIOS will display a warning message on the screen and sound an audio alarm (beep).

CPU Internal Cache – Options Enabled (default), Disabled
Makes CPU internal cache active or inactive. System performance may degrade if you disable this item

External Cache – Options Enabled (default) Disabled

This option allows you to enable or disable "level 2" secondary cache on the CPU to enhance performance

Quick Power on Self Test – Options Enabled (default) Disabled

If enabled, this allows the system to skip certain tests while booting. This speeds up the boot process

Swap floppy drive – Options Disabled (default) Enabled

No floppy drive fitted so leave this set to Disabled

Boot Up NumLock Status - Options On (default) Off

This setting determines the initial power-on state of Numpad keys. On, and they are set to number keys, Off and they are se to arrow keys

Typematic Rate Setting – Option Disabled (default) Enabled

This setting determines the keystroke repeat rate for the controller. When enabled, the user can choose faster response when keys are held down

MPS Version Control for OS – Options 1.4 (default) 1.1

Version 1.4 is used for Windows 2000, Windows XP and later. Version 1.1 is used for older OS's such as Windows NT

OS Select for DRAM >64MB – Options Non-OS2 (default) OS2

Leave at default, OS/2 is not supported

HDD S.M.A.R.T. Capability – Options Disabled (default) Enabled

The Self Monitoring analysis and Reporting Technology (SMART) enables a PC to attempt to predict the possible failure of storage drives

Advanced Chipset Features
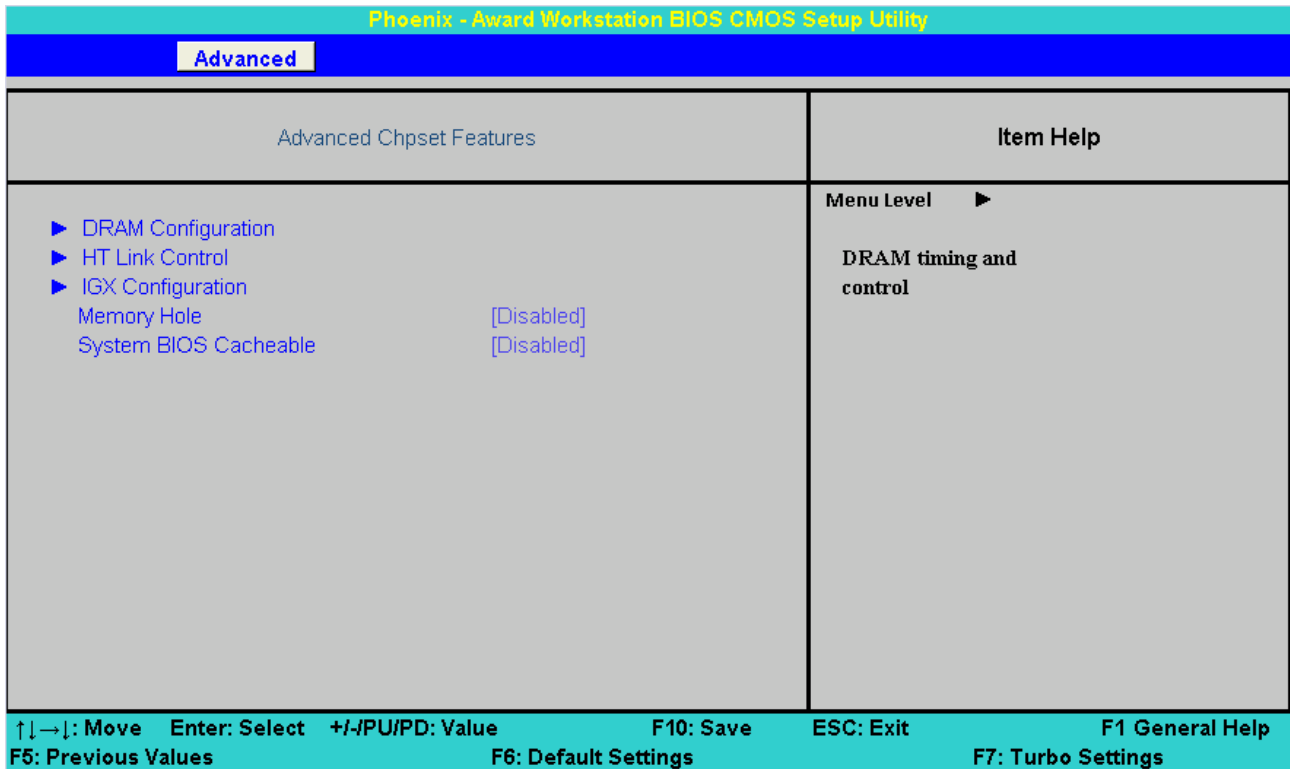
Figure F: Advanced Chipset features

DRAM Configuration
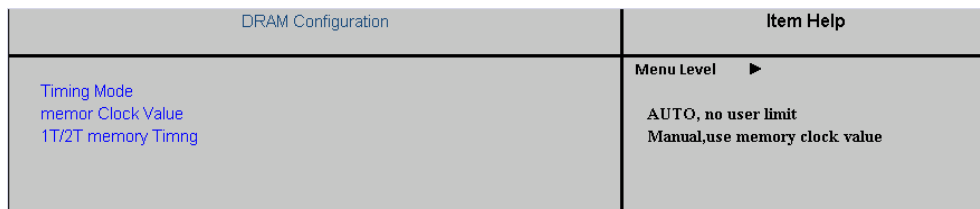
Figure G:

This sub menu offers the user the ability to change the memory clock and timing values.

Note: users should exercise caution when making changes here, as it may result in the system becoming unstable. If problems occur the user may have to use the Clear CMOS jumper to reset the BIOS to a stable condition

HT Link Control
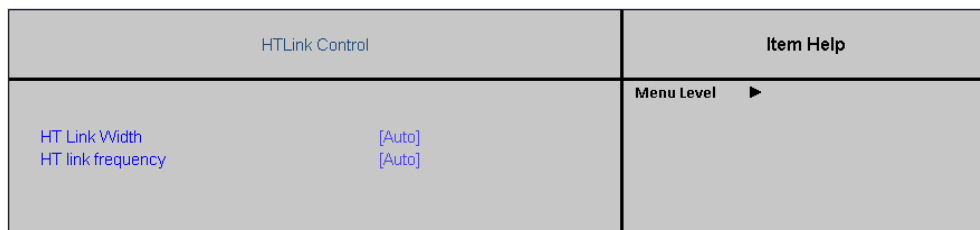
Figure H:

This sub menu allows the user to change the HT Link width and frequency

IGX Configuration

IGX Configuration		Item Help
		Menu Level ▶
Internal Graphics Mode	[UMA]	
UMA frame Buffer Size	[Auto]	DRAM timing and control
Current UMA Size	64 MB	
Video Display Devices	[Auto]	
TV Standard	[NTSC]	

Figure I

This sub menu allows the user to enable or disable UMA mode, set the UMA frame buffer size, set the TV Out standard and set the Video Display Device

Video Display device options are: Auto (default), CRT Only, LCD Only, DFP Only, TV Only, CRT Force Other Auto, TV force Other Auto, CRT Force TV force

TV Standard options are; NTSC (default0, PAL, PAL-M, PAL-60, NTSC-JAP, PAL-CN, PAL-N, SCART_RGB

Memory Hole – Option Disabled (defaut) Enabled
When enabled you can reserve an area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached

System BIOS Cacheable: Options Disabled (default) Enabled
When enabled, accesses to system BIOS ROM at F0000H-FFFFFH are cached

PnP/PCI Configurations

Phoenix - Award Workstation BIOS CMOS Setup Utility

Advanced

PnP/PCI Configrations		Item Help
		Menu Level ►
PCI/VGA Palette Snoop	[Disabled]	
PCI Latency Timer(CLK)	[64]	
** PCI express relative items**		
Maximum Payload size	[4096]	

↑↓→↓: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1 General Help
F5: Previous Values   F6: Default Settings   F7: Turbo Settings
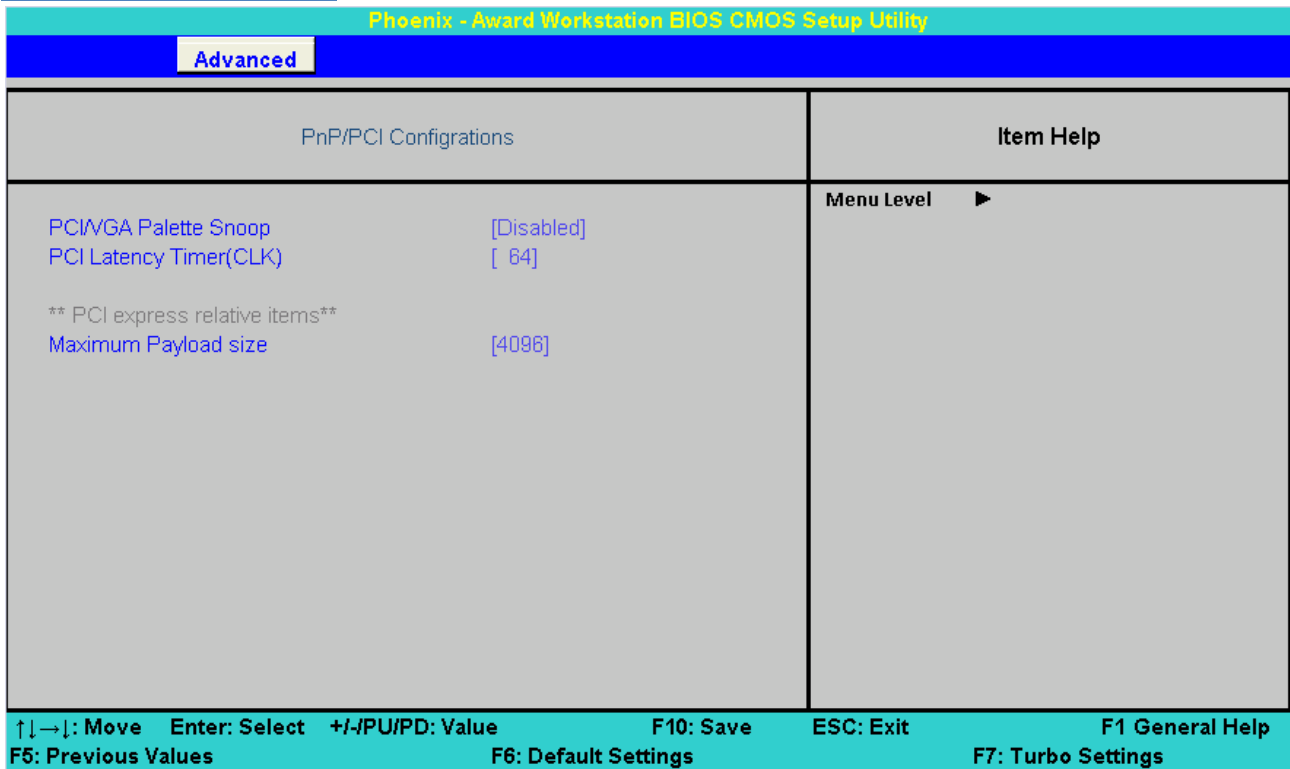
Figure J: PnP/PCI Configuration

PCI/VGA Palette Snoop – Options Disabled (default) Enabled

This is for graphics controllers which are not VGA compatible to allow them to take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility

PCI Latency Timer (CLK) = Options 64 (defaul0t, 0-255

PCI latency timers are a mechanism for PCI bus-mastering devices to share the PCI bus fairly. The higher the number, the longer the device holds onto ownership

Maximum Payload Size

The PCI-Express maximum payload size can be set. The default is 4096, and the options are 128, 256, 512, 1024 and 2048

Frequency/Voltage Control

Frequency/Voltage Control		Item Help
		Menu Level ►
NPT Fid control	[Auto]	
NPT Vid control	[Auto]	
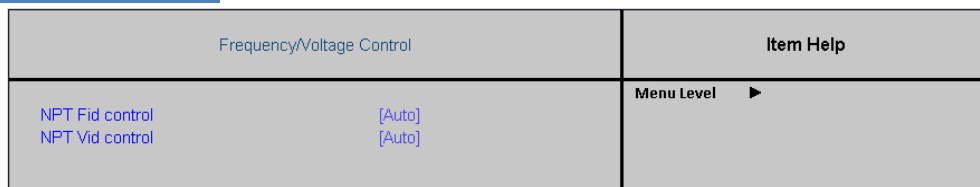
Figure K: frequency / voltage control

If the CPU has not been locked, then adjustments to these values can adjust the frequency and voltage of the cpu.

Integrated Peripherals Page
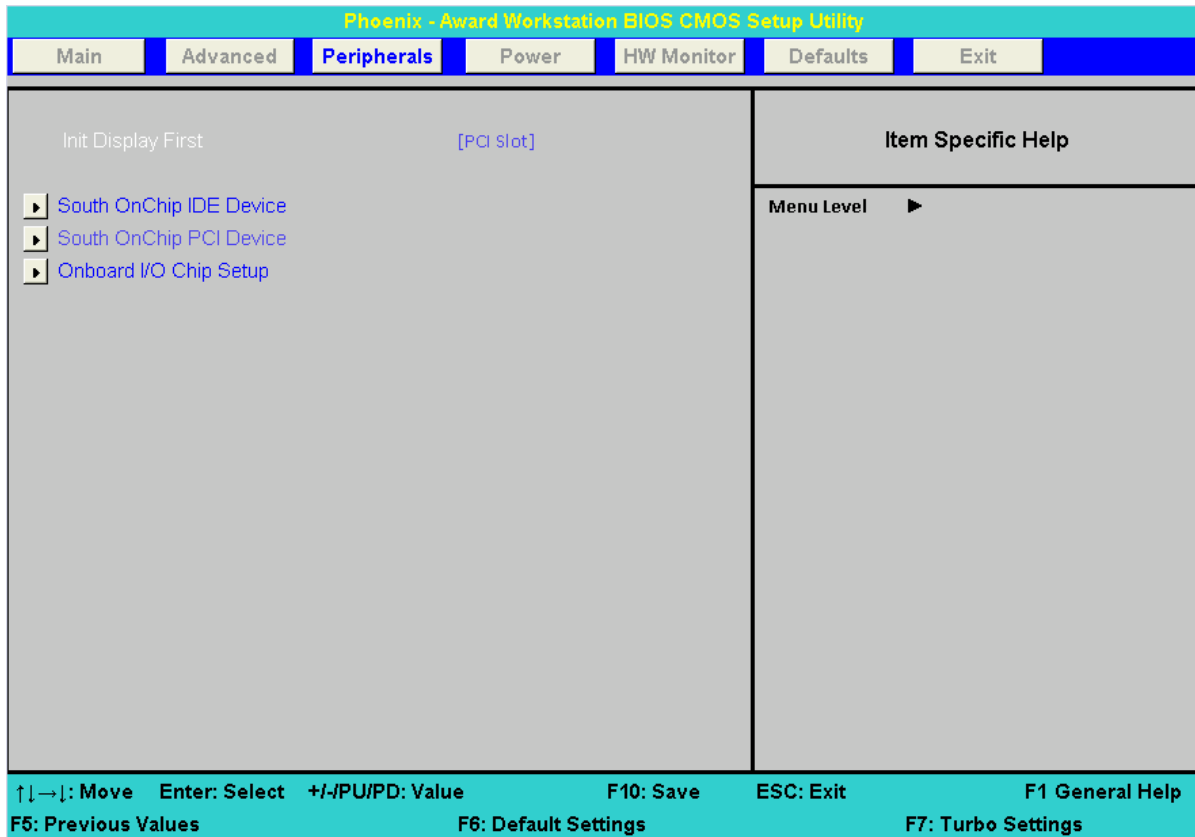
Figure L: Peripheral Setup

South On Chip IDE Device
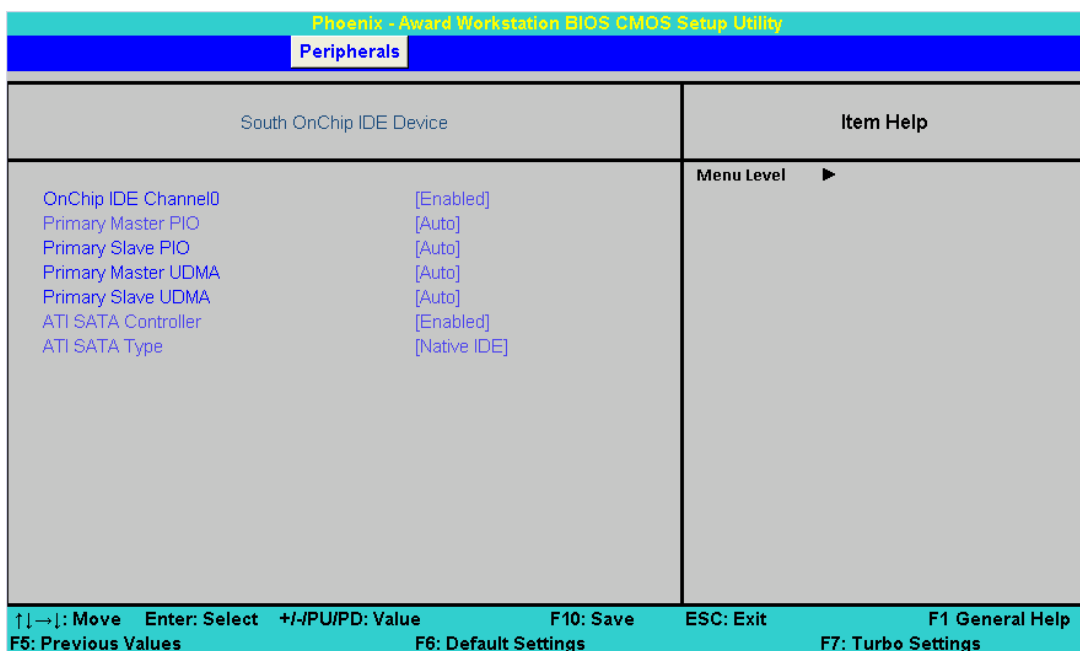
Figure M: South On Chip

The Vario L2 has limited expansion capability, and so the settings in the South On Chip IDE sub menu should be left at default

South On Chip PCI

South OnChip PCI evice		Item Help
		Menu Level ►
ATI Azalia Audio	[Auto]	
OnCip USB Cotroller	[Enabled]	
USB EHCI Controller	[Enabled]	
OnChip USB KBC controller	[Enabled]	

Figure N: South On Chip PCI

ATI Azalia Audio – Options Auto (default) Disabled
This options allows you to turn of the on board Audio

USB Functions
Vario L2 does not have a PS/2 Keyboard or Mouse port, and therefore USB must be enabled if a USB Keyboard or Mouse is to be used. It is recommended that these settings be left at their default values

On Board I/O Chip Setup

Onboard I/O Chip Setup		Item Help
		Menu Level ►
Onboard Serial Port 1	[3F8/IRQ4]	

Figure O: I/O Setup

Onboard Serial Port 1 – Options 3F8/IRQ4 (default), Disabled, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3
This allows you to set the serial address and corresponding interrupt, or even disable the port if required

Power Setup Page

```
Phoenix - Award Workstation BIOS CMOS Setup Utility

   Main      Advanced    Peripherals    Power    HW Monitor    Defaults      Exit

   ACPI Suspend Type              [S1(POS)]                         Item Help
   C2 Disable/Enable              [Disabled]
   Power Mangement Options        [User Define]         Menu Level    ▶
   HDD Power Down                 [Disabled]
   Video Off Option              [Suspend->Off]
   Video Off Method              [V/H SYNC+Blank]
   MODEM Use IRQ                  [3]
   Soft-Off by PWRBTN            [Instant-Off]
   PCI PME Wake Up               [Disabled]
   ACPI XSDT Table              [Disabled]
   HPET Support                 [Enabled]
   PWRON After PWR-Fail         [Off]
   RTC Wake Up                  [Disabled]
   Date (of month)              0:
   Resume Time (hh:mm:ss)       0: 0: 0
   AMD K8 Cool&Quiet Control    [Disabled]

   ↑↓→↓: Move    Enter: Select    +/-/PU/PD: Value        F10: Save    ESC: Exit        F1 General Help
   F5: Previous Values                          F6: Default Settings         F7: Turbo Settings
```

Figure P: Power menu

This Menu section sets up the unit so that it can automatically go into power saving modes, thus utilizing energy saving features, as well as providing power-up, power-down options

ACPI Suspend Type
ACPI Operating System options are

S1 (POS) Default	Power on Suspend
S3 (STR)	Suspend to RAM
S1 & S3	POS & STR

C2 Disable/Enable
This controls whether ACPI C2 state is used

Power Management Option
Options for this are User Defined, Minimum Power Saving, and Maximum Power Saving

HDD Power Down – Options Disabled (default), Enabled
When Enabled, this allows the HDD to power down after a configurable period of system inactivity time

Video Off Option – Options Suspend →Off (default), Always On

This section controls whether the Video goes into power states or not

Video Off Method

This setting determines the manner in which the video is turned off

V/H Sync + Blank (default)   turns off vertical and horizontal syncs and writes blanks to the video buffer
Blank Screen   writes blanks to the video buffer
DPMS Support   uses display power management signalling

Modem Use IRQ

This option sets the IRQ line the modem will use. Default is 3

Soft-Off by PWRBTN

When the system is hung, this setting determines the response to pressing the power button. Options are Instant-OFF (default) or Delay 4 Sec

PCI PME Wake UP – Options Disabled (default), Enabled

This option when enabled will allow the system to wake up with any onboard LAN activity

ACPI XSDT Table

The XSDT refers to the Extended System Description Table. This should only be used for 64bit operating systems

HPET Support – Options Disabled (default), Enabled

The High Precision Event Timer (HPET) is capable of improving system performances. The HPET can produce periodic interrupts at a much higher resolution than the RTC and is often used to synchronize multimedia streams, providing smooth playback and reducing the need to use other timestamp calculations such as an x86 CPU's RDTSC instruction. This can only be used with later OS's such as Windows Vista and later versions of Linux

PWRON after PWR-Fail

Determines whether the system will boot automatically after power fail or not

Off (default)   System will remain off
Former-State   System will return to its state prior to power fail. If off, will remain off, if On will turn on
On   System will turn on. If the unit was off before, it will now turn on

RTC Wake Up - Options Disabled (default), Enabled

When enabled, you can set the date and time at which the RTC will waken the system from Suspend mode

AMD K8 Cool & Quiet Control – Options Disabled (default), Auto

When set to Auto the system will automatically control the CPU voltage and frequency depending on the system loading
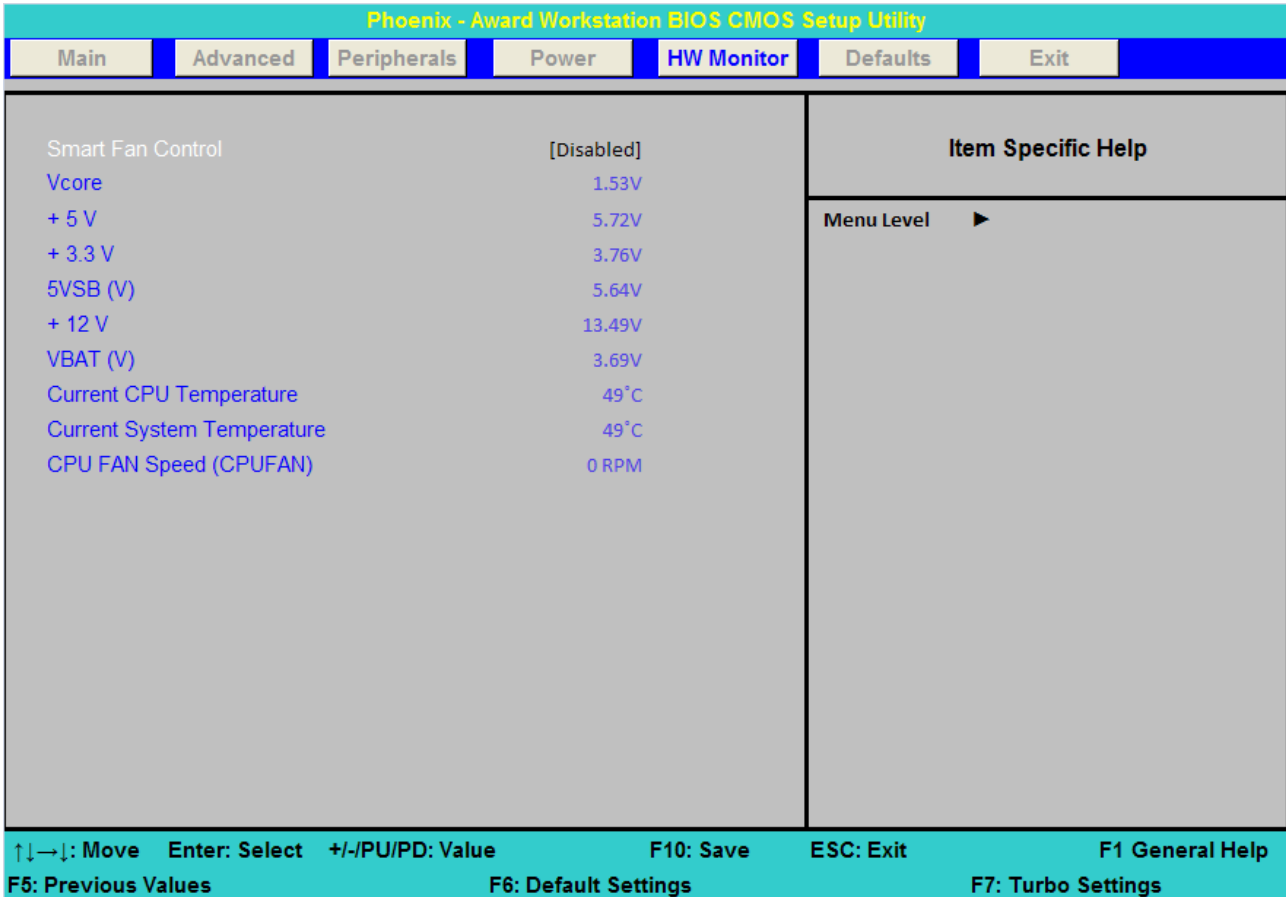
Hardware Monitor Setup Page

Phoenix - Award Workstation BIOS CMOS Setup Utility						
Main	Advanced	Peripherals	Power	**HW Monitor**	Defaults	Exit

Smart Fan Control	[Disabled]	**Item Specific Help**	
Vcore	1.53V		
+ 5 V	5.72V	Menu Level	►
+ 3.3 V	3.76V		
5VSB (V)	5.64V		
+ 12 V	13.49V		
VBAT (V)	3.69V		
Current CPU Temperature	49°C		
Current System Temperature	49°C		
CPU FAN Speed (CPUFAN)	0 RPM		

↑↓→↓: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1 General Help
F5: Previous Values   F6: Default Settings   F7: Turbo Settings

Figure Q: Hardware Monitor

This page shows the measured system voltages and temperatures.

Smart Fan Control – Options Disabled (default), Enabled
When enabled, this allows the system to monitor the CPU temperature and intelligently adjust the CPUFAN speed to maintain a safe temperature for the CPU. The benefit of this that at low temperatures and low activity, the noise level for the fan is reduced
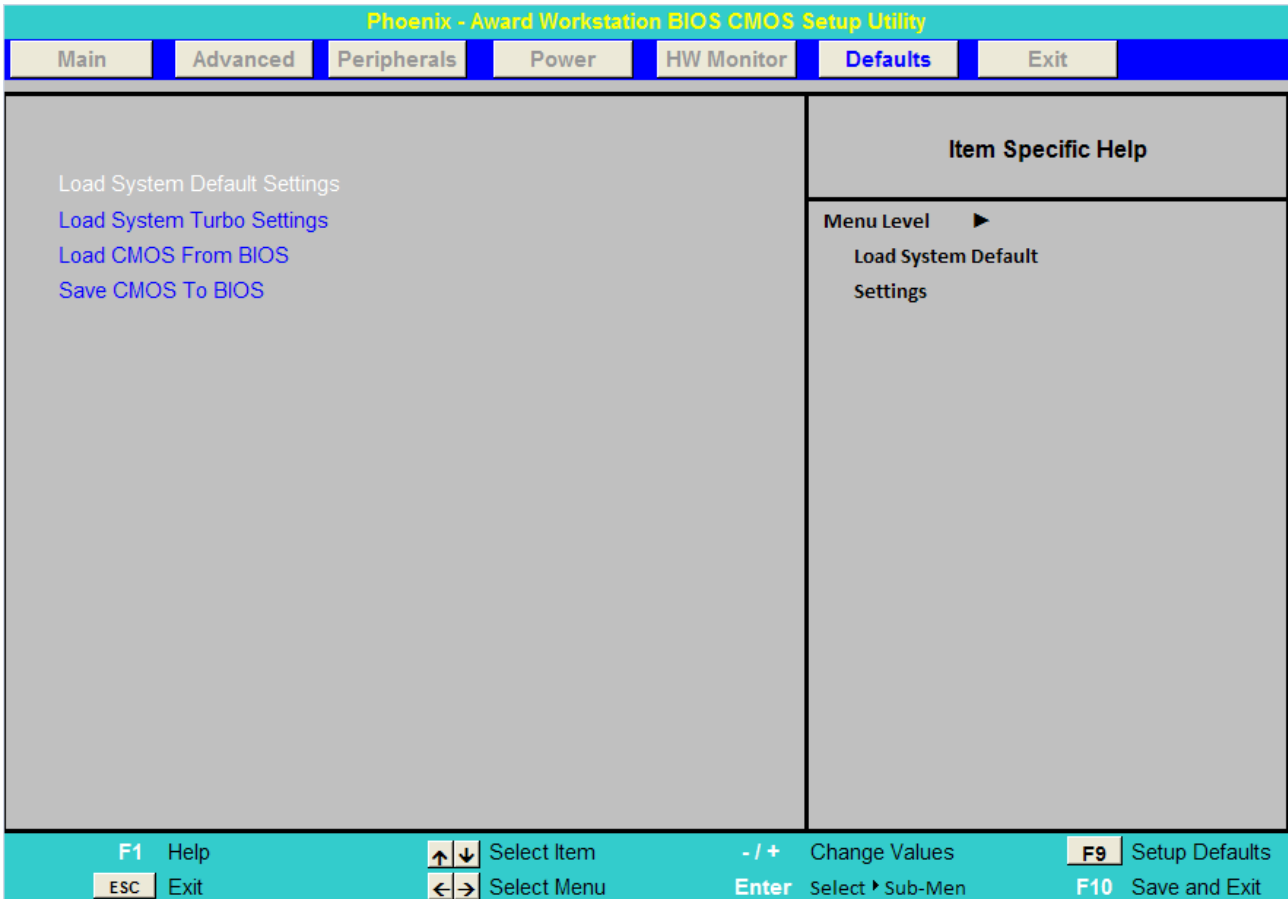
Defaults Setting Page

Figure R: Defaults

As well as allowing the System Setting to be restored to their default settings, the user can save the CMOS settings to a file and then restore them again.

This is useful when configuring multiple systems with customised settings. You can set the settings on one system, verify they work successfully, save them, and then restore them onto all your other units.

Exit Setup Page

Phoenix - Award Workstation BIOS CMOS Setup Utility						
Main	Advanced	Peripherals	Power	HW Monitor	Defaults	Exit

Save and Exit Setup
Exit Without Saving

Item Specific Help

Menu Level   ►

Save Data to CMOS

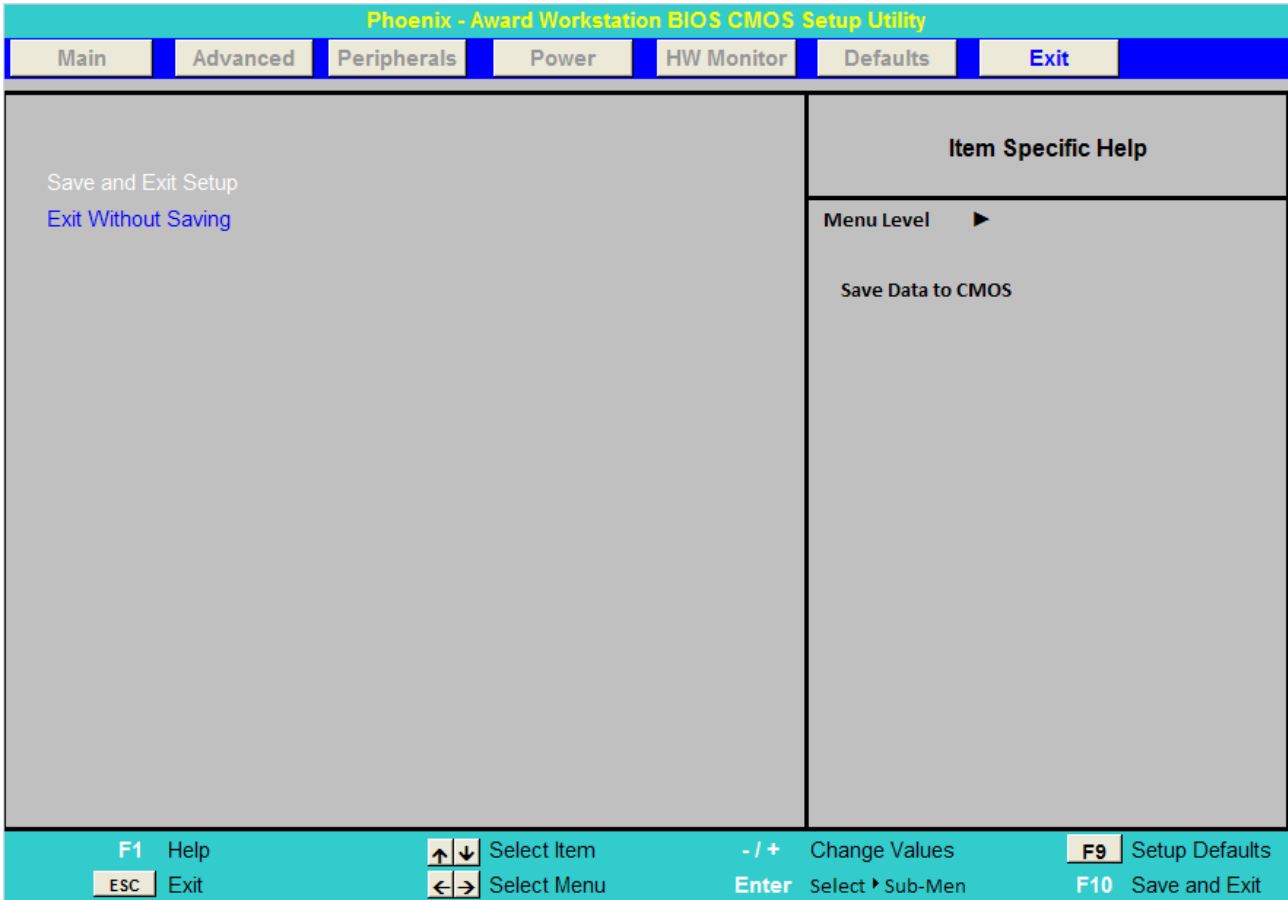| F1	Help	↑↓ Select Item	- / +	Change Values	F9	Setup Defaults
ESC	Exit	←→ Select Menu	Enter	Select ▸ Sub-Men	F10	Save and Exit

Figure S: Exit Setup menu

The Exit page allows the user to exit with and without saving any BIOS setting changes made.

Alternatively, the user can use the <F10> key command

Maintenance

On a regular basis the inside of the VARIO L2 unit should be cleaned out to prevent dust build up which could eventually clog the fans and prevent efficient operation. If the optional Fan Filter is fitted, then this should be checked on a regular basis and cleaned or replaced as required.

 Generally the enclosure design and the wiring layout will ensure that the cooling is stable. However, bear in mind that any modifications to the installation may cause a restriction of the air vents.

After a period of several years, it may be necessary to replace the battery on the processor board, if it cannot maintain the CMOS memory whilst the AC power is disconnected.

Replacing the Processor Battery

The processor board includes a small 3V lithium battery (type CR-2032) to retain the BIOS settings in the CMOS memory. Before attempting to replace the battery, please read the precautions detailed in the introductory section. Remember that even discharged batteries can present a real personnel hazard if mistreated.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aus instructions du fabricant.

The battery is located on the motherboard in the bottom right hand corner as shown in Picture 5.

Do NOT under any circumstances try to remove the battery with metallic tools (pliers, tweezers etc.).

They will short out the battery with possible disastrous results. Replace the battery by one of the same type, ensuring that it is fitted with the positive terminal facing the CPU, and that the clip is fully engaged. When the battery has been replaced, the BIOS settings will revert to their default settings. Reset them as necessary to suit your application.

Fuses

There are no user-serviceable or replaceable fuses within the unit.

Amendment History

Issue Level	Issue Date	Author	Amendment Details
1.0	20-12-2007	T Mck	First Release

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