

### Item Checklist

Completely check your package. If you discover damaged or missing items, contact your retailer.

- ☒ WinneX 1E mainboard
- ☒ QDI Mainboard Utility CD-ROM
- ☒ I/O shield
- ☒ 1 IDE ribbon cable
- ☒ 1 floppy ribbon cable
- ☒ 1 9-pin ribbon cable with bracket for serial port 2 (manufacturing option)
- ☒ 1 spare jumper cap
- ☒ QDI Serial Product R.M.A. Warranty Card
- ☒ User's manual

### Notice

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# Declaration of conformity



**QUANTUM DESIGNS(HK) LTD.**

**5/F Somerset House, TaiKoo Place 979 Kings Road,  
Quarry Bay, Hong Kong**

declares that the product

**Mainboard  
WinneX 1E**

is in conformity with

(reference to the specification under which conformity is declared in  
accordance with 89/336 EEC-EMC Directive)

- ☒ EN 55022 Limits and methods of measurements of radio disturbance characteristics of information technology equipment
- ☒ EN 50081-1 Generic emission standard Part 1:  
Residential, commercial and light industry
- ☒ EN 50082-1 Generic immunity standard Part 1:  
Residential, commercial and light industry

European Representative:

QDI COMPUTER ( UK ) LTD

QDI COMPUTER ( SCANDINAVIA ) A/S

QDI SYSTEM HANDEL GMBH

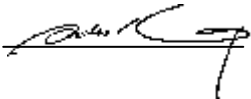
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Signature :  . Place / Date : HONG KONG/1999

Printed Name : Anders Cheung Position/ Title : President

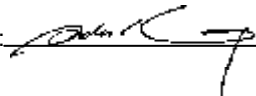
## Declaration of conformity



Trade Name:	QDI Computer ( U. S . A. ) Inc.
Model Name:	WinneX 1E
Responsible Party:	QDI Computer ( U. S. A.) Inc.
Address:	41456 Christy Street Fremont, CA 94538
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Type of Product:	Mainboard
<b>Manufacturer:</b>	<b>Quantum Designs (HK) Inc.</b>
Address:	5/F, Somerset House, TaiKoo Place 979 Kings Road, Quarry Bay, HONG KONG

### Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Signature :  Date : 1999



## CONTENTS

SpeedEasy Quick Setup(English) .....	S.1
SpeedEasy Schnell-Installation(Deutsch) .....	S.3
Fácil Y Veloz Rápida Instalación(Español) .....	S.5
Facilité de vitesse Initialisation(Francais) .....	S.7
Setup Della Scheda SpeedEasy(Italiano) .....	S.11
SpeedEasy 快速安装指南(中文繁体) .....	S.13
SpeedEasy 快速安装指南(中文简体) .....	S.15

### 1. Introduction ..... 1

Overview .....	1
Flexibility in Designing Cost-effective System .....	1
Key Features .....	1
Introduction to New Features .....	4

### 2. Installation Instructions ..... 7

#### External Connectors ..... 7

PS/2 Keyboard & PS/2 Mouse Connector .....	7
USB1 & USB2 .....	7
Parallel Port Connector, Monitor Output Connector and Serial Port Connector .....	7
Line-in jack, Microphone-in jack, Speaker-out jack and MIDI/Joystick connector .....	8
ATX Power Supply Connector & Power Switch .....	8
Hard Disk LED Connector (HDLED) .....	9
Reset Switch (RESET) .....	9
Speaker Connector (SPEAKER) .....	9
Power LED Connector (PWR_LED) .....	9
Key-Lock Connector (KEY_L) .....	9
ACPI LED Connector (GREEN_LED) .....	9
Hardware Green Connector (SLEEP) .....	9
Infrared Header (IrDA) .....	10
Fan Connector (CPUFAN & CHSFAN) .....	10
Wake-Up On LAN (WOL) .....	11
Wake-Up On Internal Modem (WOM) .....	11
Audio Connector (CDLIN, MODEM) .....	11
4 pin SMBus Connector(SMBUS) .....	12
Sound Connector (PC-PCI) .....	12
Chassis Security Switch (CHSSEC) .....	12
Audio/Modem Riser Interface Connector (AMR) .....	13





## CONTENTS

Expansion Slots & I/O Ports description .....	13
<b>Jumper Settings</b> .....	13
Overclocking Jumper Setting (JFS0, JFS1) .....	13
Clear CMOS .....	14
Enable/Disable on-board audio (JSD) .....	14
Enable keyboard password power-on function(JKB) .....	15
Connector PCI 3.3VSB Voltage Jumper (JSB) .....	15
FWH Protection Jumper (JAV) .....	16
Front/Back Panel USB Enable (JP26,JP27) .....	16
Enable Front/Back Panel USB Device Wake-up Function (JFUSB/JUSB) .....	17
Front Panel USB Port(JP25) .....	17
Installation of All Drivers .....	18
PC-cillin 98 .....	19
QDI ManageEasy .....	19
Additional Information .....	19
<b>3. BIOS Description</b> .....	<b>21</b>
<b>Utility Support</b> .....	<b>21</b>
AWDFLASH.EXE .....	21
<b>AWARD BIOS Description</b> .....	<b>22</b>
Entering Setup .....	22
Load Optimized Defaults .....	22
Standard CMOS Features Setup .....	22
CPU SpeedEasy Setup .....	26
Advanced BIOS Features Setup .....	27
Advanced Chipset Features Setup .....	29
Power Management Setup .....	30
PNP/PCI Configuration Setup .....	32
Integrated Peripherals .....	33
PC Health Status .....	35
Password Setting .....	37
Boot with BIOS Defaults .....	37
<b>Appendix QDI Mainboard Utility CD-ROM</b> .....	<b>38</b>
<b>RecoveryEasy</b> .....	<b>39</b>
Introduction .....	39
Operation Process .....	39
FAQ .....	44





### **Caution 1**

**Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, especially the SDRAM memory, otherwise your mainboard or the system memory might be seriously damaged.**

The AC power status(ON/OFF) of the system is indicated by the red LED near the two DIMM sockets. If the LED is on, adding or removing devices like SDRAM memory is prohibited.

### **Caution 2**

**Be sure to add some Silicone Grease between the PentiumIII (Coppermine) CPU and the FAN to keep them fully contact , meanwhile to meet the heat sink requirement.**



## SpeedEasy Quick Setup

### Procedures :

1. Correctly insert the Intel® Celeron™ PPGA or Intel® Pentium III (Coppermine) FC-PGA processor.
2. Plug in other configurations and restore the system.
3. Switch on power to the system and press the <Del> key to enter BIOS Setup.
4. Enter "CPU SpeedEasy Setup" menu to set up the CPU speed.

**Note: If you do not set the CPU speed, your system will run at the default setting ( 200MHz for processor with 100MHz host bus speed, 133MHz for processor with 66MHz host bus speed, for bus ratio locked processor, run its real speed).**

5. Save and exit BIOS Setup, your system will now boot successfully.





## CPU SpeedEasy Setup Menu

Select <CPU SpeedEasy Setup> item from the main menu and enter the sub-menu:



Figure - 1 CPU SpeedEasy Setup Menu

BIOS provides you with a set of basic values for your processor selection instead of the jumper settings. The processor speed can be manually selected on the "CPU SpeedEasy SETUP" menu screen.



### Warning:

Do not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damages caused.







## Chapter 1

### Introduction

#### Overview

The WinneX 1E green mainboard utilizes the Intel integrated graphics chipset - Intel® 810E Chipset, providing a fully compatible and cost-effective PC/microATX platform with high performance. The new integrated technologies, together with the software configurable AC'97 audio and modem system give customers an advanced, multimedia solution at an extremely low price. It provides 66/100/133 MHz system bus support for all Intel® Celeron™ PPGA 370 and Intel® Pentium III (Coppermine) FC-PGA processors. SDRAMs are supported up to 512MB. It also provides advanced features such as Wake-on-LAN, Wake-on-Modem and Keyboard Password Power-on functions. Suspend to RAM, the optimal implementation of the Advanced Configuration and Power Interface (ACPI) specification, makes the PC's power consumption drop to the lowest possible level and enable quick wakeup. ManageEasy, our system management application is also supplied to enable remote monitoring and configuration of the system.

#### Flexibility in Designing Cost-effective System

The Intel® 810E Chipset is a high-integration chipset which consists of a Graphics and Memory Controller Hub (GMCH) Host Bridge and an I/O Controller Hub (ICH) Bridge. The Intel® 810E Chipset System provides added flexibility in designing cost-effective solutions.

**1. Intel® 810E GMCH (Intel® 82810E) + ICH (Intel® 82801AA)**

Added features:

- Includes 4MB, 32-bit 100/133MHz SDRAM Display Cache.
- Supports Ultra ATA/66.

#### Key Features

##### Form factor

- MicroATX form factor of 244mm x 205mm.

##### Microprocessor

- Supports all Intel® Celeron™ PPGA processors at 266/300/333/366/400/433/466/500/533MHz and future processors with 66MHz bus speed.
- Supports all Intel® Pentium III (Coppermine) FC-PGA processors at 500/550/600/650/700/750MHz and future processors with 100MHz bus speed.
- Supports all Intel® Pentium III (Coppermine) FC-PGA processors at 533/667/733MHz and future processors with 133MHz bus speed.





- Supports 66/100/133MHz host bus speed.
- The CPU core voltage adjustable from 1.3V to 2.0V automatically through onboard switching voltage regulator with VID(Voltage ID).
- Provides onboard 1.5V, 1.8V, 2.5V and 3.3V standby regulator.

### System memory

- Provides two 168 pin 3.3V unbuffered DIMM sockets.
- Supports 64-bit wide DIMM modules with 100MHz SDRAM devices.
- Supports 8MB to 256MB SDRAM using 16Mb/64Mb technology.
- Supports 512MB SDRAM using 128Mb technology.
- Supports Suspend to RAM.

### Onboard IDE

- Supports two PCI PIO and Bus Master IDE ports.
- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD-ROM drives.
- Supports up to PIO Mode 4 timing.
- Supports "Ultra ATA/33" Synchronous DMA modes, transferring data up to 33MB/s.
- Supports "Ultra ATA/66" Synchronous DMA modes, transferring data up to 66MB/s.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

### Onboard I/O

- Winbond W83627HF LPC I/O chip.
- One floppy port supporting up to two 3.5" or 5.25" floppy drives with 360K/720K/1.2M/1.44M/2.88M format.
- Two high speed 16550 compatible UART (COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- USB host interface supporting 2 USB ports.
- One joystick port.
- Provides onboard MIDI/Joystick connector.
- Infrared interface.
- All I/O ports can be enabled/disabled in BIOS setup.

### Onchip AGP

- Integrated 2D/3D Graphics Controller.
- Integrated H/W Motion Compensation Engine.
- Provides 4MB SDRAM Display Cache.





### Onboard Sound

- Intel AC' 97 2.1 Specification Compliant.
- 16bit stereo codec.
- Multiple stereo input mixer.
- Mono and stereo volume control.
- Provides onboard Line-in Jack, Microphone-in Jack and Speaker-out Jack.

### Advanced features

- PCI 2.2 Specification Compliant.
- Provides Trend ChipAwayVirus® On Guard.
- Supports Windows 95/98 software power-down.
- Supports Wake-on-LAN and Wake-on-Modem.
- Supports Keyboard Password Power-on function.
- Onboard I/O Winbond 83627HF supports system monitoring (monitors CPU and system temperatures, system voltages, chassis intrusion and fan speed).
- Supports management applications such as LDCM (LANDesk Client Manager) or QDI's ManageEasy. (manufacturing option)
- Provides onboard 3.3V regulator to support ATX power supply without 3.3V output.
- System status resumes after AC power failure.
- Supports QDI's innovations such as SpeedEasy, RecoveryEasy etc.
- Protects the system BIOS from being attacked by severe virus such as CIH.
- Supports Suspend to RAM.

### BIOS

- Licensed advanced AWARD BIOS, supports flash ROM with 4Mb memory size, plug and play ready.
- Supports IDE CD-ROM or SCSI boot up.

### Green function

- Supports ACPI (Advanced Configuration and Power Interface) and ODPM (OS Directed Power Management).
- Supports four ACPI power states: Full-on, Stop Grant, Suspend to RAM, and soft-off.

### Expansion slots

- 3 PCI slots.
- 1 AMR.





## Introduction to New Features

### **FWH(Firmware Hub) Protection**

The BIOS of the mainboard is inside the FWH. Some severe viruses such as CIH virus are so dangerous that it may overwrite the BIOS of the mainboard. If the BIOS has been damaged, the system will be unable to boot. We provide the following solution which protects the system BIOS from being attacked by such viruses.

Here are two choices which implements this function:

1. Set the jumper (JAV) as closed, the BIOS can not be overwritten.
2. Set the jumper (JAV) as open, meanwhile set "Flash Write Protect" as Enabled in AWARD BIOS CMOS Setup. In this way, the BIOS can not be overwritten, but the DMI information can be updated.

Refer to page 16 for detailed information on jumper setting, and page 28 for related BIOS setting.

### **Suspend to RAM**

Suspend to RAM is a cost-effective, optimal implementation of the Advanced Configuration and Power Interface (ACPI) 1.0 specification, which makes a PC's power consumption drop to the lowest possible level and enables quick wakeup. When the system is in Suspend-to-RAM status, the system context is maintained in system memory, the system consumes only a small fraction of the power used for full operation. Instead of shutting down the system to save power when not in use and then having to reboot later, Suspend-to-RAM solution enables the system to quickly wake up, restoring all applications and features, enabling operation in a few seconds.

To implement this function, the following requirements are essential:

1. Power supply requirements: The current of 5VSB line of the power supply should be more than 0.75A.
2. The BIOS option "ACPI function" should be enabled, and "ACPI Suspend Type" should be set as S3 in AWARD BIOS CMOS setup. Refer to page 30 for detailed information.





3. An ACPI-enabled operating system such as Windows 98 is needed.  
Navigate to the CD-ROM drive from the MS-DOS Command Prompt and enter the following from the Win98 directory on the CD:

D:\SETUP /P J

(This manual assumes that your CD-ROM device driver letter is D:)

Windows 98 will be installed with ACPI enabled.

4. Three ways to enter Suspend-to-RAM status under ACPI-enabled Windows 98:
  - Click Start -> Shut down -> Standby to enable the system to enter Suspend-to-RAM status.
  - Click Start -> Setup -> Control Panel -> Power Management -> Advanced and choose Standby item, the system will enter Suspend-to-RAM status when you press power button.
  - From Power Management Properties in Control Panel, set the latency time in System Standby, the system will enter Suspend-to-RAM status when time out.

The same ways used to power up the system can be used to wake up the system from Suspend-to-RAM status. For example, pushing the power button, through the Wake-on-LAN, Wake-on-Modem function or RTC Alarm. If the keyboard password power-on function is enabled, the keyboard password should be used to wake up the system instead of pushing the power button.

#### Ultra ATA/66

According to the previous ATA/IDE hard drive data transfer protocol, the signaling way to send data was in synchronous strobe mode by using the rising edge of the strobe signal. The Ultra ATA/33 protocol doubles the burst transfer rate from 16.6MB/s to 33.3MB/s, by using both the rising and falling edges of the strobe signal, this time Ultra ATA/66 doubles the Ultra ATA burst transfer rate once again (from 33.3MB/s to 66.6MB/s) by reducing setup times and increasing the strobe rate. The faster strobe rate increases EMI, which cannot be eliminated by the standard 40-pin cable used by ATA and Ultra ATA. To eliminate this increase in EMI, a new 40-pin, 80-conductor cable is needed. This cable adds 40 additional ground lines between each of the original 40 ground and signal lines. The additional 40 lines help shield the signal from EMI, reduce crosstalk and improve signal integrity.





Ultra ATA/33 introduced CRC (Cyclical Redundancy Check), a new feature of IDE that provides data integrity and reliability. Ultra ATA/66 uses the same process. The CRC value is calculated by both the host and the hard drive. After the host-request data is sent, the host sends its CRC to the hard drive, and the hard drive compares it to its own CRC value. If the hard drive reports errors to the host, then the host retries the command containing the CRC error.

Ultra ATA/66 technology increases both performance and data integrity. However there are basically five requirements for your system to run in Ultra ATA/66 mode:

1. The system board must have a special Ultra ATA/66 detect circuit, such as WinneX 1E mainboard.
2. The system BIOS must also support Ultra ATA/66.
3. The operating system must be capable of DMA transfers. Win95 (OSR2) and Win98 are capable.
4. An Ultra ATA/66 capable, 40-pin, 80-conductor cable is required.
5. Ultra ATA/66 compatible IDE device such as a hard drive or CD-ROM drive.

