
LE-564

User's Manual
Edition 1.1
2004/10/28

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Packing List

Hardware

LE-564 Single Board Computer X 1

Cable Kit

FDD Cable X 1
COM Port DB9 Cable..... X 1
PS/2 Keyboard and Mouse Cable..... X 1
UltraATA/100 IDE Cable X 1
LTP Port DB25 Cable..... X 1

CD Content

User's Manual X 1
Driver CD X 1

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Chapter 1. Introduction

1.1 Product Overview

The **LE-564** Single Board Computer is an all-in-one industrial 5.25" drive-size EBX-compliant little-board computer based on VIA EBGA Eden/C3 embedded / low power 686-level processor. The onboard VIA EBGA Eden CPU offers 400/533/667 MHz of speed at the low voltage to provide the low power embedded computing platform for low power, an free, mobile and related applied / embedded computing applications.

LE-564 integrates onboard 128/256 MB PC133 SDRAM, 4 X 10/100Base-Tx or with one 10/100/1000 Base-T Fast Ethernet, CompactFlash solid state disk, UltraATA/100 PCI enhanced IDE interfaces, and multiple I/O ports including 2 RS232, 1 LPT and 2 USB ports. These features make LE-564 be the ideal solution of industrial workstation, firewall, node terminal, transaction station, POS, Kiosk, panel PC, ATM and embedded application.

Based on VIA Eden platform, **LE-564** features the high computing capacity and high integration with onboard CPU, SDRAM, 4 X LAN, CompactFlash interfaces, and 2 COM, 1 LPT, 2 USB ports. With these features, **LE-564** provides the powerful performance and integrated solutions including, but not limited to the following.

Compact Low Profile Board Size

5.25" drive size meets the industrial standard EBX form factor. The onboard CPU and SDRAM also make **LE-564** be the low profile solution for embedded compact applications.

Advanced Embedded Computing Platform

VIA Eden embedded CPU supports up to 667 MHz at 133 MHz FSB with onboard 256 MB PC133 SDRAM of system memory for high-end industrial embedded computing platform with high CPU and memory loading.

Multiple I/O Port Interface

Integrated 2 COM, 1 parallel, 2 USB ports for industrial applications like POS, Kiosk, Panel PC, ATM and transaction workstation.

Expanded UCR for remote Operating SETUP Bios Feature

Expanded Universal Console Redirection (UCR) is an feature for monitoring POST messages and running Setup and an operation system from a remote serial terminal.

1.2 Specifications

General Specification

Form Factor	5.25" drive-size EBX compliant littleboard computer
CPU	VIA Eden 533 MHz CPU at 133 MHz FSB Low power / fan free x86 computing platform
Chipset	VIA Apollo PLE133T with VT8601T and VT82C686B
DRAM	Onboard optional 128/256 MB PC133 SDRAM 1 x 168-pin DIMM slot supports 512 MB PC133 SDRAM Total memory capacity up to 768 MB PC133 SDRAM
BIOS	Phoenix-Award 2Mb or 4Mb PnP flash BIOS Optional Integrated RPL/PXE Ethernet Boot ROM Features Expanded UCR for remote Operating SETUP Bios Feature
Enhanced IDE	PCI enhanced IDE interface supports dual ports up to 4 ATAPI devices with UltraATA/100 supported One 40-pin box header connector One 44-pin box header connector
Green Function	Power saving mode supported in BIOS with DOZE, STANDBY and SUSPEND modes. ACPI version 1.0 and APM version 1.2 compliant
Watchdog Timer	6-level generates NMI or system reset programmable watchdog timer
Real Time Clock	VIA VT82C686B built-in RTC with lithium battery

Multi-I/O Ports

Chipset	VIA VT82C686B built-in super I/O controller
Serial Port	2 RS-232 serial port COM1&2 Both with 16C550 compatible UART and 16 bytes FIFO +5V power output for RS232 peripherals
USB Port	2 USB ports with USB version 1.1a compliant
Parallel Port	1 bi-direction parallel port with SPP/ECP/EPP mode
FDD	1 x FDD port supports up to one FDD
IrDA Port	1 x IrDA compliant Infrared interface supports SIR
K/B & Mouse	PS/2 keyboard and mouse ports

Solid State Disk Interface

Flash Type	CompactFlash Type-I/II for CFC (Compact Flash Card)
Capacity	Up to 1 GB flash memory

Display Interface

Chipset	VIA 8601T built-in Trident AGP controller
Video Memory	Up to 8 MB of video memory shared with system memory, selectable in BIOS
Display Type	CRT monitor at VGA, SVGA, XGA, SXGA

Ethernet Interface

Chipset	4 X 10/100BASE-Tx Fast Ethernet LAN interfaces with PCI RTL8139C+ controller for LE-564E5R-P 3 X 10/100BASE-Tx Fast Ethernet LAN interfaces with Intel 82551QM and one 10/100/1000BASE-T Fast Ethernet LAN interface with Intel 82540EM controller for LE-564E5G-P LED Display Interface for extra Indicator Board
Type	RTL8139C+ and 82551QM: 10Base-T / 100Base-TX, auto-switching Fast Ethernet Full duplex, IEEE802.3U compliant 82540EM: 10Base-T / 100Base-TX/1000Base-T auto-switching Fast Ethernet Full duplex, IEEE802.3, 802.3u, 802.3ab compliant

Expansive Interface

PCI Bus	One 32-bit/33 MHz PCI slot One 32-bit/33 MHz Mini-PCI socket with optional select with PCI slot
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Power and Environment

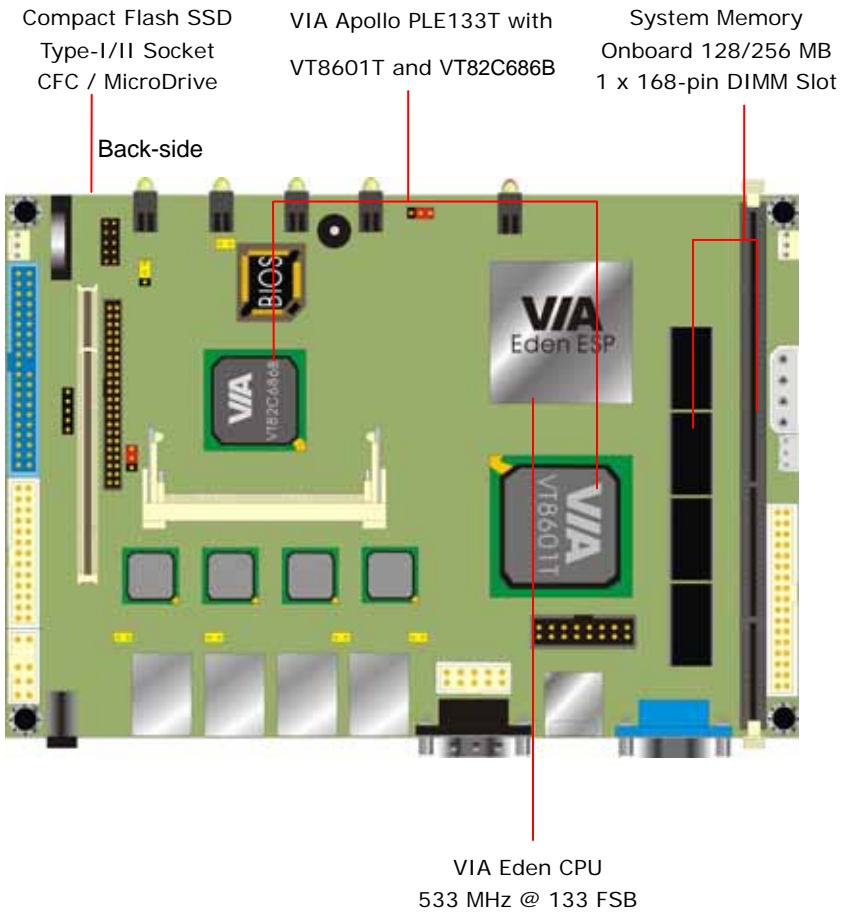
Power Req.	One +5V DC input on standard 4-pin AT connector One 5V DC input jack
ATX Function	One 3-pin ATX interface with 5V standby
Dimension	146 x 203 mm or 5.75" x 8" (L x W), standard EBX size
Temperature	Operating within 0 ~ 60°C (32 ~ 140°F) Storage within -20 ~ 85°C (-4 ~ 185°F)

Ordering Code

LE-564E5R-P	With Eden 533 MHz CPU, SVGA. 4 X Realtek 8139C+ LAN, CompactFlash and 2 COM, 1 parallel, 2 USB Ports
LE-564E5G-P	With Eden 533 MHz CPU, SVGA. 3 X Intel 82551QM and 1 X Intel 82540EM LAN, CompactFlash and 2 COM, 1 parallel, 2 USB Ports

Online product information detail and updates are available on <http://www.commell.com.tw>

1.3 Component Placement

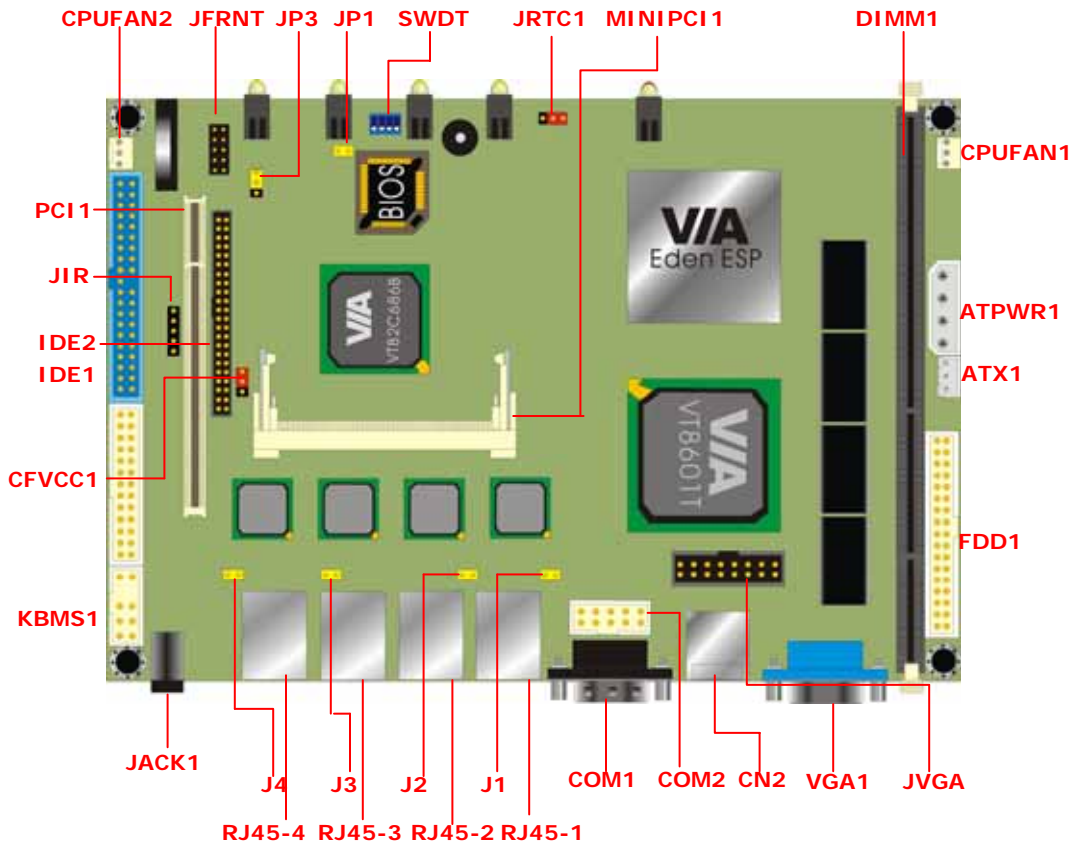


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Chapter 2. Hardware Setup

This chapter contains the information for installation of hardware. The install procedure includes jumper settings, CPU and memory installation, fan, I/O and panel connections.

2.1 Jumpers and Connectors Location



2.1.1 Jumpers Reference

Jumper	Function	Section
JRTC1	COMS Setting	2.3
JP3	Watchdog Timer Setting	2.4
JP1	CompactFlash setting	2.5
J1	Primary LAN Enable/Disable Setting	2.8
J2	Secondary LAN Enable/Disable Setting	2.8
J3	Third LAN Enable/Disable Setting	2.8
J4	Forth LAN Enable/Disable Setting	2.8
CFVCC1	CompactFlash Voltage setting	2.5
SWDT	Time Out Value of Watchdog Timer Setting	2.4

2.1.2 Connectors Reference

Connector	Function	Remark
DIMM1	168-pin DIMM Slot	Standard
IDE1	44-pin Primary IDE Port	Standard
IDE2	40-pin Secondary IDE Port	Standard
FDD1	34-pin FDD Port	Standard
CFD1	Compact Flash Socket	Standard
KBMS1	10-pin PS/2 Keyboard / Mouse Connector	Standard
JIR	5-pin SIR IrDA Port	Standard
ATPWR1	4-pin AT Power Connector	Standard
ATX1	3-pin ATX Signal Connector	Standard
JFRNT	14-pin Switch and Indicator Connector	Standard
CPUFAN1	3-pin CPU Fan Connector	Standard
CPUFAN2	3-pin System Fan Connector	Standard
JVGA	16-pin Internal VGA Port	Standard
COM2	10-pin Internal serial port	Standard
RJ45-1	10-pin Primary LAN Port Connector	Standard
RJ45-2	10-pin Secondary LAN Port Connector	Standard
RJ45-3	10-pin Third LAN Port Connector	Standard
RJ45-4	10-pin Forth LAN Port Connector	Standard
PCI1	32-bit PCI Slot	Standard
MINIPCI1	32-bit Mini-PCI socket	Standard
VGA1	External VGA connector with bracket	Standard
COM1	9-pin serial port connector with bracket	Standard
JACK1	5V DC_IN jack	Standard
CN2	USB connector	Standard

2.2 CPU and DRAM Setting

The board is integrated with VIA embedded EPGA Eden 533 MHz CPU at 133 MHz FSB.

System memory including onboard 128/256 MB PC133 SDRAM and one 168-pin DIMM slot up to 768 MB SDRAM. Total memory capacity up to 640 MB PC133 SDRAM.

2.3 CMOS Setting

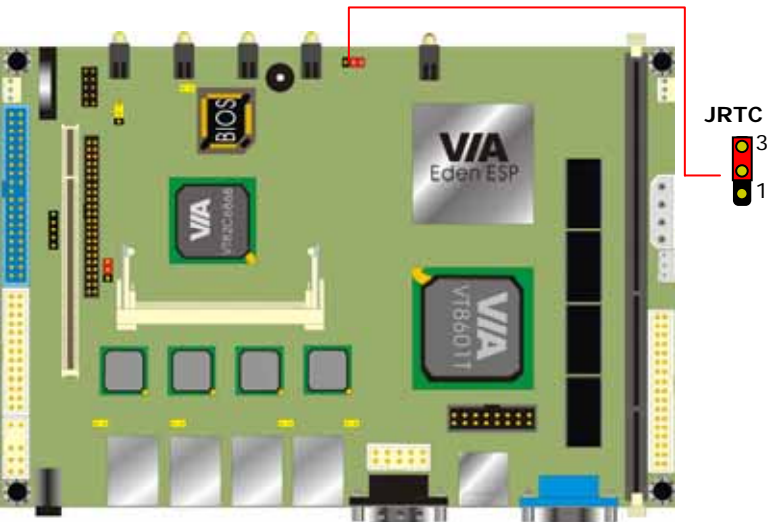
The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

Jumper: JRTC

Type: onboard 3-pin header

JRTC	Mode
1-2	Clear CMOS
2-3	Normal Operation

Default setting



2.4 Watchdog Timer Setting

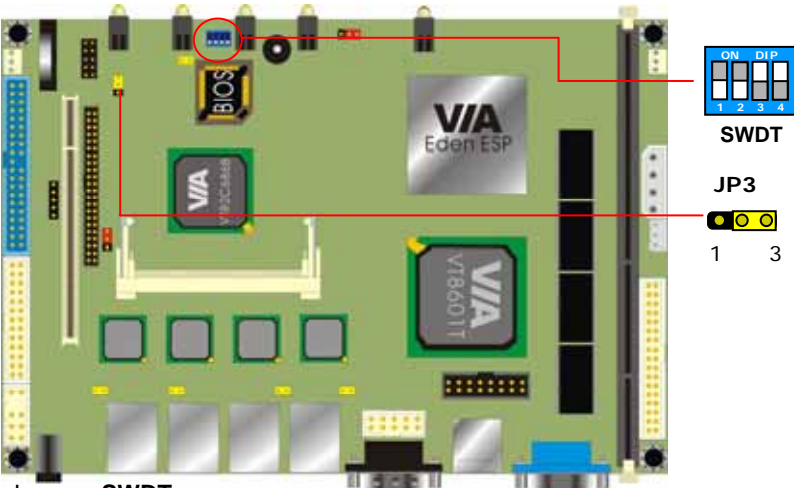
The watchdog timer makes the systems auto-reset while it stop to work for a period. The onboard watchdog timer can be set as system reset or active NMI mode by jumper JP3. The timeout value can be set as 1, 2, 10, 20, 110, or 220 seconds by jumper SWDT.

Jumper: JP3

Type: onboard 3-pin header

JP3	Watchdog Timer
1-2	Active NMI
2-3	Reset

Default setting



Jumper: **SWDT**

Type: onboard 4-button / 2-level DIP switch

Timeout Value	SWDT	1	2	3	4
1 Second		OFF	OFF	ON	OFF
2 Seconds		OFF	OFF	ON	ON
10 Seconds		OFF	ON	OFF	OFF
20 Seconds		OFF	ON	OFF	ON
110 Seconds		ON	OFF	OFF	OFF
220 Seconds		ON	OFF	OFF	ON

Default setting

2.5 Compact Flash Disk

The board supports 50-pin Compact Flash Disk. The onboard 50-pin socket, DIMM, supports Compact Flash Disk with jumper selectable mode on jumper JCFSEL with master or slave mode on primary IDE channel.

2.5.1 Compact Flash Disk Address Setting

Jumper: JP1
Type: onboard 2-pin header

JP1	Compact Flash Address
ON	Master
OFF	Slave

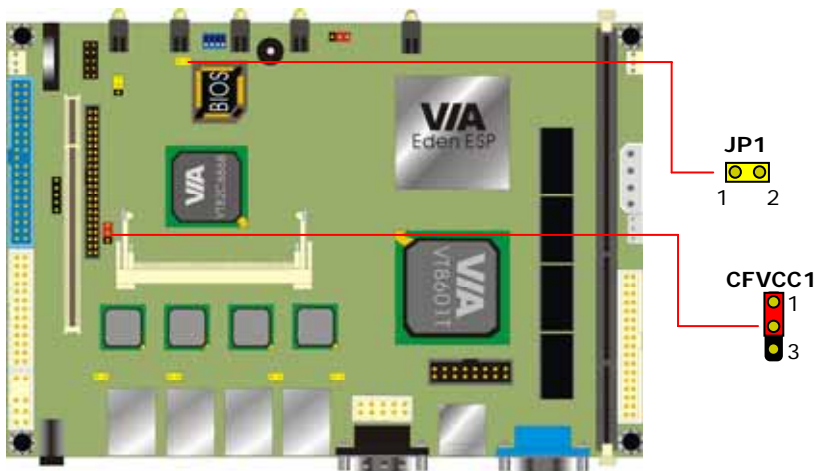
Default setting

2.5.2 Compact Flash Disk Voltage Setting

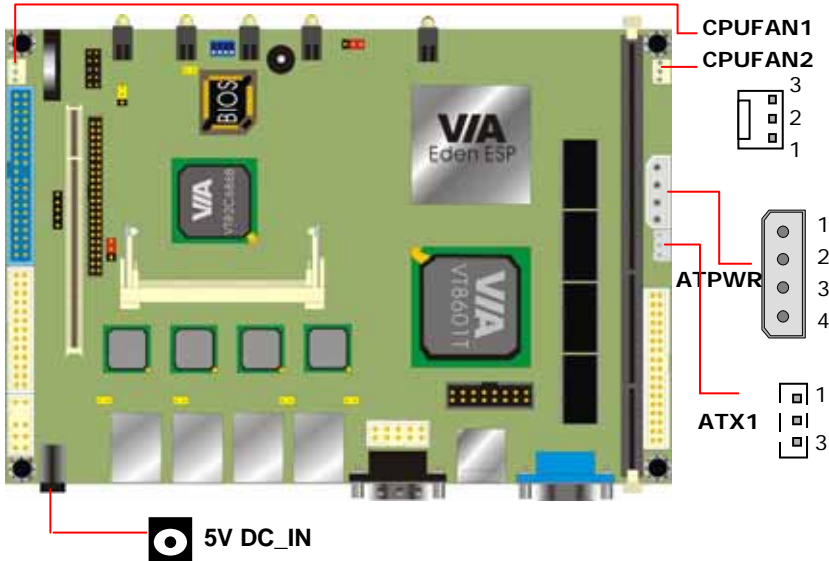
Jumper: CFVCC1
Type: onboard 3-pin header

JCFSEL	Compact Flash Address
1-2	3.3V
2-3	5V

Default setting



2.6 Power and Fan Connectors



Connector: ATPWR

Type: 4-pin AT Power Connector

Pin	Description	Cable Color Reference
1	Disable	Disable
2	Ground	Black
3	Ground	Black
4	+5V	Yellow

Connector: ATX1

Type: 3-pin ATX Function Connector

Pin	Description	Pin	Description	Pin	Description
1	Power On	2	Ground	3	5V Standby

Connector: CPUFAN1, CPUFAN2

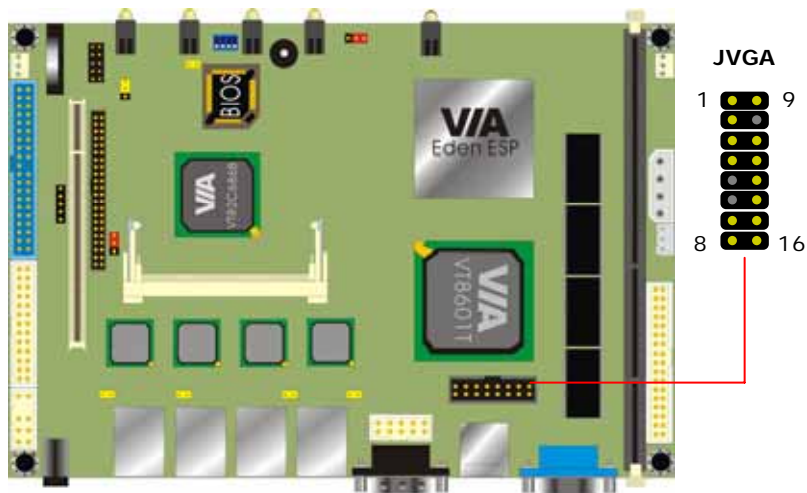
Type: 3-pin Fan Power Wafer Connector

Pin	Description	Pin	Description	Pin	Description
1	Ground	2	+5V	3	Fan Control

2.7 VGA Interface

2.7.1 Standard Analog VGA Interface

The board is integrated with VIA Apollo PLE133T with VT8601T via UMA Architecture and max 8 MB of video memory shared with system memory.

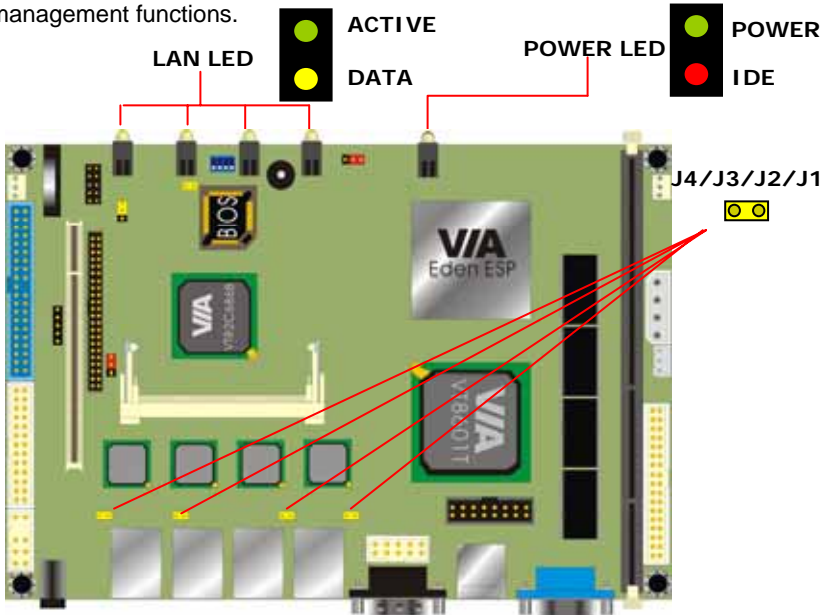


Connector: JVGA
Type: 16-pin header

Pin	Description	Pin	Description
1	Red	9	Green
2	Blue	10	N/C
3	Ground	11	Ground
4	Ground	12	Ground
5	N/C	13	Ground
6	N/C	14	Data
7	HSYNC	15	VSYNC
8	Clock	16	N/C

2.8 Ethernet Interface

The board integrated with 10/100BASE-TX Fast Ethernet interface at the type of 10Base-T/100Base-TX auto-switching Fast Ethernet with full duplex and IEEE 802.3U compliant or 10/100/1000BASE-T Fast Ethernet interface at the type of 10Base-T/100Base-TX/1000Base-T auto-switching Fast Ethernet with full duplex and IEEE802.3, 802.3u, 802.3ab compliant. The LAN controller, RTL8139 or Intel 82551QM or Intel 82540EM provides the powerful Fast Ethernet interface with embedded operating system (OS) supported, green function (power saving mode / wake-on-LAN) and advanced network management functions.



Connector: J1/J2/J3/J4

Type: 2-pin header connector

J1/J2/J3/J4	LAN functional selection
1-2 on	enable
1-2 off	disable
Default setting	

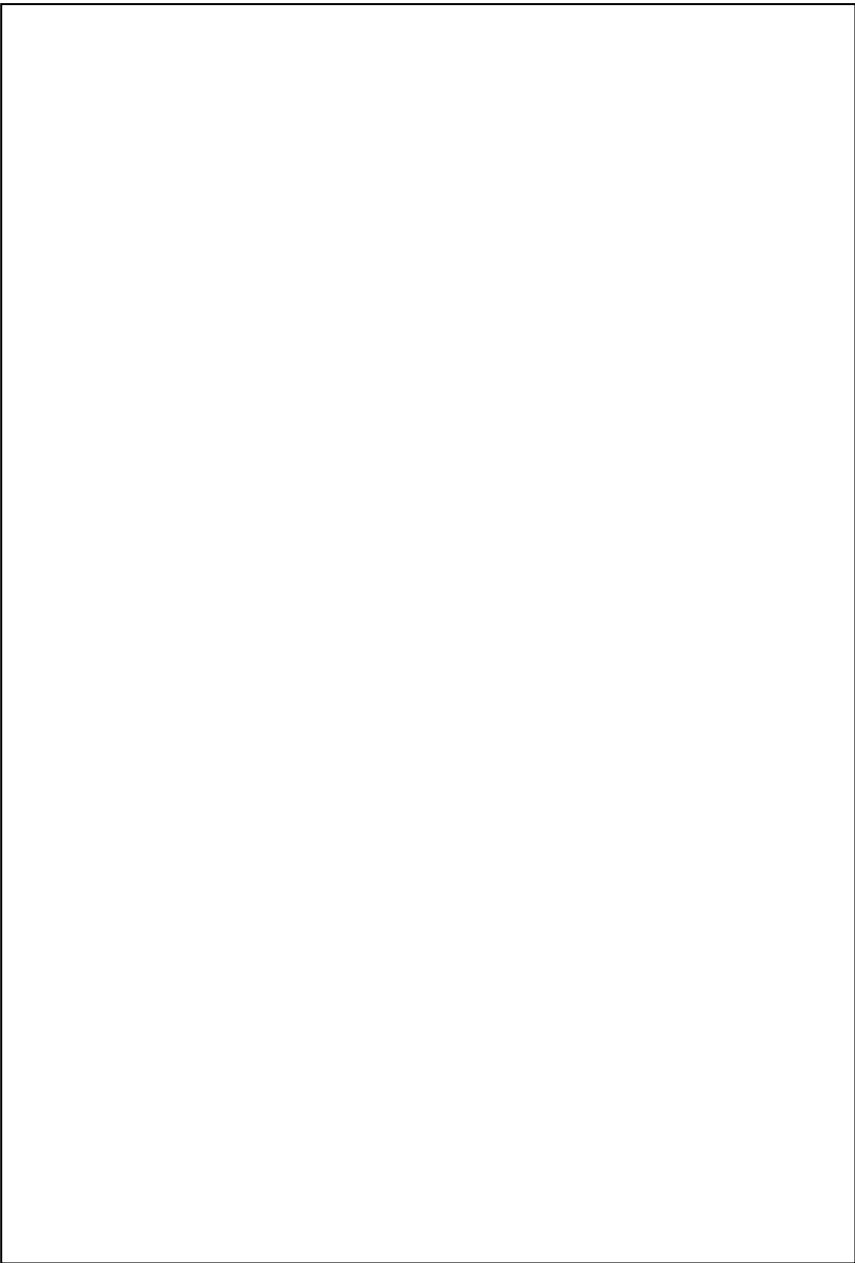
2.9 Expansive Bus Interfaces

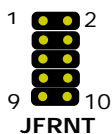
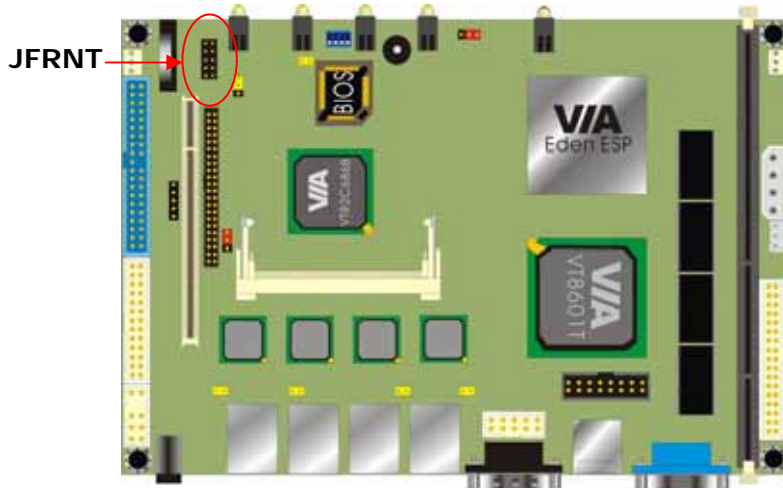
The board offers PCI expansive bus interfaces including one PCI slot and one Mini-PCI socket.

2.9.1 PCI Bus Interface

The onboard expansive PCI bus interface with one PCI slot and Mini-PCI socket optional use with PCI slot.

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Connector: JFRNT

Type: onboard 14-pin header

Power LED	1	GND	2	Vcc
IDE LED	3	Active	4	GND
Reset	5	SYSRST	6	GND
Power Button	7	PWBN	8	GND
Speaker	9	SPEAK	10	Vcc

Chapter 3. BIOS Setup

The single board computer uses the Award BIOS for the system configuration. The Award BIOS in the single board computer is a customized version of the industrial standard BIOS for IBM PC AT-compatible computers. It supports Intel x86 and compatible CPU architecture based processors and computers. The BIOS provides critical low-level support for the system central processing, memory and I/O sub-systems.

The BIOS setup program of the single board computer let the customers modify the basic configuration setting. The settings are stored in a dedicated battery-backed memory, NVRAM, retains the information when the power is turned off. If the battery runs out of the power, then the settings of BIOS will come back to the default setting. The BIOS section of the manual is subject to change without notice and is provided here for reference purpose only. The settings and configurations of the BIOS are current at the time of print, and therefore they may not be exactly the same as that displayed on your screen.

To activate CMOS Setup program, press key immediately after you turn on the system. The following message “Press DEL to enter SETUP” should appear in the lower left hand corner of your screen. When you enter the CMOS Setup Utility, the Main Menu will be displayed as **Figure 3-1**. You can use arrow keys to select your function, press <Enter> key to accept the selection and enter the sub-menu.

Figure 3-1. CMOS Setup Utility Main Screen

Phoenix – Award BIOS CMOS Setup Utility	
>Standard CMOS Features	>Frequency/Voltage Control
>Advanced BIOS Features	Load Fail-Safe Defaults
>Advanced Chipset Features	Load Optimized Defaults
>Integrated Peripherals	Set Supervisor Password
>Power Management Setup	Set User Password
>PnP / PCI Configurations	Save & Exit Setup
>PC Health Status	Exit Without Saving
Esc : Quit	
F10 : Save & Exit Setup	
↑ ↓ → ← : Select Item	

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Chapter 4. Driver Installation

The driver CD offers auto-run menu. It will detect and select the type of single board computer and helps you install the drivers automatically.

4.1 Install Chipset Software

The selection helps you install the drivers of chipset. It will detect your version of OS automatically.

4.2 Install VGA Driver

The selection helps you to install the driver of onboard VGA interface.

4.3 Install LAN Driver

The selection helps you to install the driver of onboard LAN interface.

4.4 Link to < *Website* > Homepage

The selection help you to link to the website to find the updated technical documents and download directly.

4.5 Browse this CD

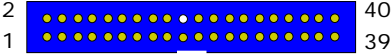
The selection helps you to find the drivers in this CD directly.

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Appendix A. I/O Port Pin Assignment

A.1 IDE Port

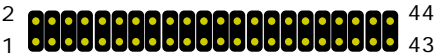
Connector: **IDE1**
Type: 40-pin (2 x 20) box header



Pin	Description	Pin	Description
1	Reset	2	Ground
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	Ground	20	N/C (Vcc)
21	REQ	22	Ground
23	IOW-/STOP	24	Ground
25	IOR-/HDMARDY	26	Ground
27	IRDY/DDMARDY	28	IDESEL
29	DACK-	30	Ground
31	IRQ	32	N/C
33	A1	34	CBLID
35	A0	36	A2
37	CS0 (MASTER CS)	38	CS1 (SLAVE CS)
39	LED ACT-	40	Ground

Connector: **IDE2**

Type: 44-pin (2 x 22) box header

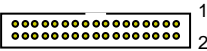


Pin	Description	Pin	Description
1	Reset	2	Ground
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	Ground	20	N/C
21	REQ	22	Ground
23	IOW-/STOP	24	Ground
25	IOR-/HDMARDY	26	Ground
27	IORDY/DDMARDY	28	Ground
29	DACK-	30	Ground
31	IRQ	32	N/C
33	A1	34	SD
35	A0	36	A2
37	CS1	38	CS3
39	ASP1	40	Ground
41	Vcc	42	Vcc
43	Ground	44	Ground

A.2 FDD Port

Connector: **FDD1**

Type: 34-pin (2 x 17) header

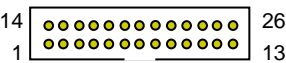


Pin	Description	Pin	Description
1	Ground	2	DRIVE DENSITY SELECT 0
3	Ground	4	DRIVE DENSITY SELECT 1
5	Ground	6	N/C
7	Ground	8	INDEX-
9	Ground	10	MOTOR ENABLE A-
11	Ground	12	DRIVER SELECT B-
13	Ground	14	DRIVER SELECT A-
15	Ground	16	MOTOR ENABLE B-
17	Ground	18	DIRECTION-
19	Ground	20	STEP-
21	Ground	22	WRITE DATA-
23	Ground	24	WRITE GATE-
25	Ground	26	TRACK 0-
27	Ground	28	WRITE PROTECT-
29	Ground	30	READ DATA-
31	Ground	32	HEAD SELECT-
33	Ground	34	DISK CHANGE-

A.3 Parallel Port

Connector: **PRINTER1**

Type: 26-pin (2 x 13) 2.54-pitch box header



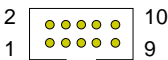
Pin	Description	Pin	Description
1	STROBE-	14	AUTO FEED-
2	D0	15	ERROR-
3	D1	16	INITIALIZE-
4	D2	17	SELECT INPUT-
5	D3	18	Ground
6	D4	19	Ground
7	D5	20	Ground
8	D6	21	Ground
9	D7	22	Ground
10	ACKNOWLEDGE-	23	Ground
11	BUSY	24	Ground
12	PAPER EMPTY	25	Ground
13	SELECT+	26	N/C

A.4 RS-232 Serial Port

A.4.1 Onboard RS-232 Serial Port

Connector: **JCOM2**

Type: 10-pin (2 x 5) 2.54-pitch box header

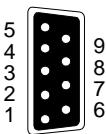


Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI	10	N/C

A.4.2 On Bracket RS-232 Serial Port

Connector: **COM1**

Type: 9-pin D-sub male connector on bracket



Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI		

A.5 IrDA Port

Connector: **JIR**

Type: 5-pin (1 x 5) header for SIR Port



Pin	Description
1	Vcc
2	N/C
3	IRRX
4	Ground
5	IRTX

A.6 PS/2 Keyboard and Mouse Port

Connector: **KBMS1**

Type: 10-pin (2 x 5) header connector

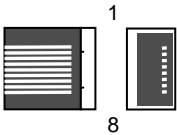


Pin	Description	Pin	Description
1	Keyboard Data	2	Mouse Data
3	N/C	4	N/C
5	Ground	6	Ground
7	VCC	8	VCC
9	Keyboard Clock	10	Mouse Clock

A.7 LAN Port

Connector: **LAN1, LAN2, LAN3, LAN4**

Type: RJ45 connector with LED on bracket



Pin	1	2	3	4	5	6	7	8
Description	TX+	TX-	RX+	N/C	N/C	RX-	N/C	N/C

Connector: **LAN1 (for LE-564E5G only)**

Type: RJ45 connector with LED on bracket

Pin	1	2	3	4	5	6	7	8
Description	TRD0+	TRD0-	TRD1+	TRD2+	TRD2-	TRD1-	TRD3+	TRD3-

Appendix B. Flash the BIOS

B.1 BIOS Auto Flash Tool

The board is based on Award BIOS and can be updated easily by the BIOS auto flash tool. You can download the tool online at the address below:

<http://www.award.com>

http://www.commell.com.tw/Support/Support_SBC.htm

File name of the tool is "awdf flash.exe", it's the utility that can write the data into the BIOS flash ship and update the BIOS.

B.2 Flash Method

1. Get the ".bin" file including the image of new BIOS you want to update.
2. Power on the system and flash the BIOS.
3. Re-star the system.

Any question about the BIOS re-flash please contact your distributors or visit the web-site at below:

http://www.commell.com.tw/Support/Support_SBC.htm

Notes (This page left blank intentionally)

Appendix C. System Resources

C.1 I/O Port Address Map

Address Range	Device
0x00000000-0x00000CF7	PCI bus
0x00000000-0x00000CF7	Direct Memory Access Controller
0x00000D00-0x00003FFF	PCI bus
0x00004100-0x00004FFF	PCI bus
0x00005010-0x00005FFF	PCI bus
0x00006080-0x0000FFFF	PCI bus
0x000003B0-0x000003BB	VIA Tech CPU to AGP Controller
0x000003B0-0x000003BB	Trident Video Accelerator Blade 3D/ProMedia
0x000003C0-0x000003DF	VIA Tech CPU to AGP Controller
0x000003C0-0x000003DF	Trident Video Accelerator Blade 3D/ProMedia
0x00000A79-0x00000A79	ISAPNP Read Data Port
0x00000279-0x00000279	ISAPNP Read Data Port
0x00000274-0x00000277	ISAPNP Read Data Port
0x0000C000-0x0000C00F	VIA Bus Master IDE Controller
0x000001F0-0x000001F7	Primary IDE Channel
0x000003F6-0x000003F6	Primary IDE Channel
0x00000170-0x00000177	Secondary IDE Channel
0x00000376-0x00000376	Secondary IDE Channel
0x0000C400-0x0000C41F	VIA Rev 5 or later USB Universal Host Controller
0x0000C800-0x0000C81F	VIA Rev 5 or later USB Universal Host Controller
0x0000DC00-0x0000DCFF	Realtek RTL8139 Family PCI Fast Ethernet NIC #4
0x0000E000-0x0000E0FF	Realtek RTL8139 Family PCI Fast Ethernet NIC #3
0x0000E400-0x0000E4FF	Realtek RTL8139 Family PCI Fast Ethernet NIC #2
0x0000E800-0x0000E8FF	Realtek RTL8139 Family PCI Fast Ethernet NIC
0x00000010-0x0000001F	Main board Resource
0x00000022-0x0000003F	Main board Resource
0x00000044-0x0000005F	Main board Resource
0x00000062-0x00000063	Main board Resource
0x00000065-0x0000006F	Main board Resource
0x00000074-0x0000007F	Main board Resource
0x00000091-0x00000093	Main board Resource
0x000000A2-0x000000BF	Main board Resource
0x000000E0-0x000000EF	Main board Resource
0x000004D0-0x000004D1	Main board Resource
0x00000020-0x00000021	Programmable Interrupt Controller
0x000000A0-0x000000A1	Programmable Interrupt Controller

0x00000080-0x00000090	Direct Memory Access Controller
0x00000094-0x0000009F	Direct Memory Access Controller
0x000000C0-0x000000DF	Direct Memory Access Controller
0x00000040-0x00000043	System Timer
0x00000070-0x00000073	System CMOS/Real Time Clock
0x00000061-0x00000061	System Speaker
0x000000F0-0x000000FF	Numeric Data Processor
0x000003F0-0x000003F5	Standard Floppy Disk Controller
0x000003F7-0x000003F7	Standard Floppy Disk Controller
0x000003F8-0x000003FF	Communications Port (COM1)
0x000002F8-0x000002FF	Communications Port (COM2)
0x00000378-0x0000037F	Printer Port (LPT1)
0x00000060-0x00000060	PC/AT Enhanced PS/2 Keyboard (101-102-Key)
0x00000064-0x00000064	PC/AT Enhanced PS/2 Keyboard (101-102-Key)

C.2 Memory Address Map

Range	Device
0xF0000-0xF3FFF	System board
0xF4000-0xF7FFF	System board
0xF8000-0xFBFFF	System board
0xFC000-0xFFFFF	System board
0x77F0000-0x77FFFFF	System board
0xFFFFF0000-0xFFFFFFFFF	System board
0x0000-0x9FFFF	System board
0x100000-0x77EFFFF	System board
0xFEE00000-0xFEE00FFF	System board
0xA0000-0xBFFFF	PCI bus
0xA0000-0xBFFFF	VIA Tech CPU to AGP Controller
0xA0000-0xBFFFF	Trident Video Accelerator Blade 3D/ProMedia
0xC0000-0xDFFFF	PCI bus
0x7800000-0xFFEFFFFF	PCI bus
0xE4000000-0xE6FFFFFFF	VIA Tech CPU to AGP Controller
0xE0000000-0xE3FFFFFFF	VIA Tech CPU to AGP Controller
0xE5800000-0xE5FFFFFFF	Trident Video Accelerator Blade 3D/ProMedia
0xE6000000-0xE601FFFFF	Trident Video Accelerator Blade 3D/ProMedia
0xE5000000-0xE57FFFFFFF	Trident Video Accelerator Blade 3D/ProMedia
0xE7000000-0xE70000FF	Realtek RTL8139 Family PCI Fast Ethernet NIC #4
0xE7001000-0xE70010FF	Realtek RTL8139 Family PCI Fast Ethernet NIC #3
0xE7002000-0xE70020FF	Realtek RTL8139 Family PCI Fast Ethernet NIC #2
0xE7003000-0xE70030FF	Realtek RTL8139 Family PCI Fast Ethernet NIC

C.3 System IRQ and DMA Resource

C.3.1 IRQ

IRQ Number	Device
IRQ 0	System Timer
IRQ 1	PC/AT Enhanced PS/2 Keyboard (101-102-Key)
IRQ 3	Communications Port (COM2)
IRQ 4	Communications Port (COM1)
IRQ 6	Standard Floppy Disk Controller
IRQ 8	System CMOS/Real Time Clock
IRQ 11	Microsoft ACPI-Compliant System
IRQ 11	Trident Video Accelerator Blade 3D/ProMedia
IRQ 11	VIA Rev 5 or later USB Universal Host Controller
IRQ 11	VIA Rev 5 or later USB Universal Host Controller
IRQ 11	Realtek RTL8139 Family PCI Fast Ethernet NIC #4
IRQ 11	Realtek RTL8139 Family PCI Fast Ethernet NIC #3
IRQ 11	Realtek RTL8139 Family PCI Fast Ethernet NIC #2
IRQ 11	Realtek RTL8139 Family PCI Fast Ethernet NIC
IRQ 12	PS/2 compatible mouse
IRQ 13	Numeric Data Processor
IRQ 14	Primary IDE Channel
IRQ 15	Secondary IDE Channel

C.3.2 DMA

Channel	Device
0	(free)
1	(free)
2	Standard Floppy Disk Controller
3	(free)
4	Direct memory access controller
5	(free)
6	(free)
7	(free)

Appendix D: Cable for Universal Console Redirection (UCR)

Pin-1 (DCD: Data Carrier Detect) → Pin-4(DTR: Data Terminal Ready)

Pin-2 (RXD: Serial Input) → Pin-3 (TXD: Serial Output)

Pin-7 (RTS: Request to Send) → Pin-8 (CTS: Clear to Send)

Contact Information

Any advice or comment about our products and service, or anything we can help you please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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