User's Manual

3301380 / 3303833

About this Installation Guide

This installation guide provides general information and installation instructions about the product. This installation guide is intended for experienced users and integrators with hardware knowledge of personal computers. If you are not sure about any description in this installation guide, please consult your vendor before further handling.

Warning

Motherboard and their components contain very delicate Integrated Circuits (IC). To protect the motherboard and its components against damage from static electricity, you should always follow the following precautions when handling it :

1. Disconnect your Board from the power source when you want to work on the inside.
2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry.
3. Use a grounded wrist strap when handling computer components.
4. Place components on a grounded antistatic pad or on the bag that came with the Board, whenever components are separated from the system.
5. The following indicated holes are not for securing position purpose. It will damage the mainboard by screwing through these holes.

Ordering Codes

3301640A

3.5" Intel Pentium M Dothan socket 478 miniboard with CRT/LCD/DVI/LAN

3301640B

3.5" Intel Ultra Low Voltage Celeron M 600 MHz miniboard with CRT/LCD/DVI/ LAN

Optional

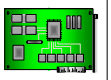
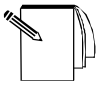
3301640C

3.5" Intel Ultra Low Voltage Celeron M 1GHz miniboard with CRT/LCD/DVI/ LAN

3301650D

3.5" Intel Low Voltage Pentium M 1.4GHz miniboard with CRT/LCD/DVI/ LAN

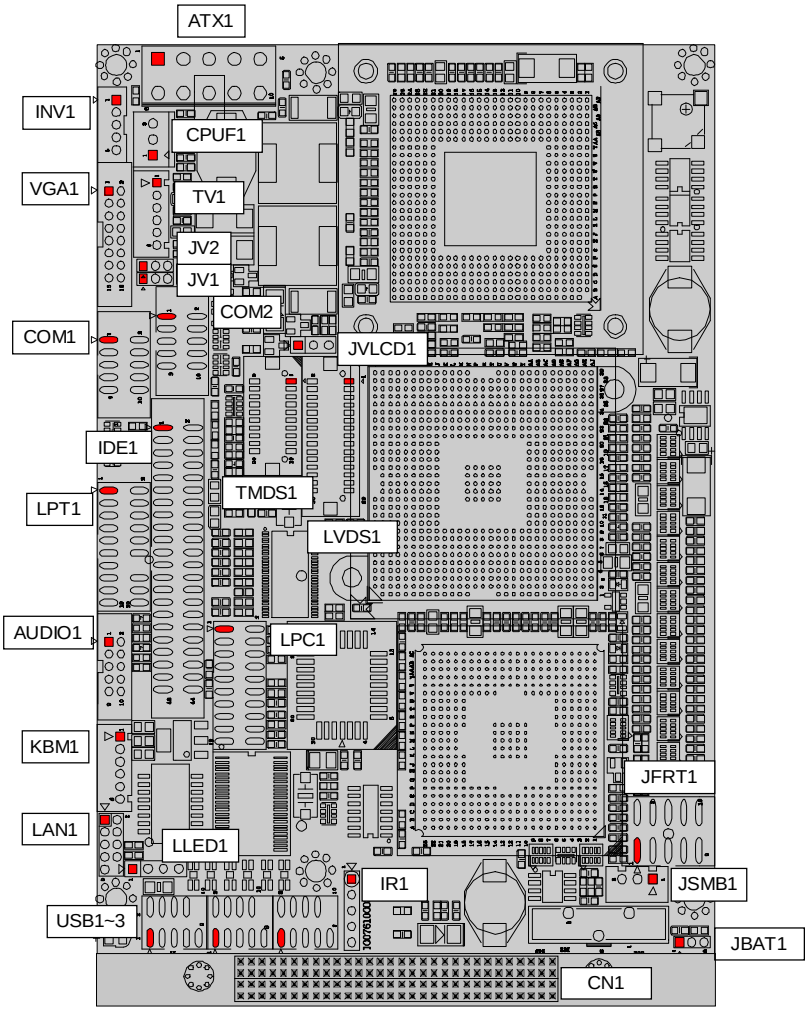
PACKING LIST

	3301640
	1 x Power Cable 1 x CPU cooler or Heatsink
	1 x CD-ROM (driver)
	3301640 Quick Installation

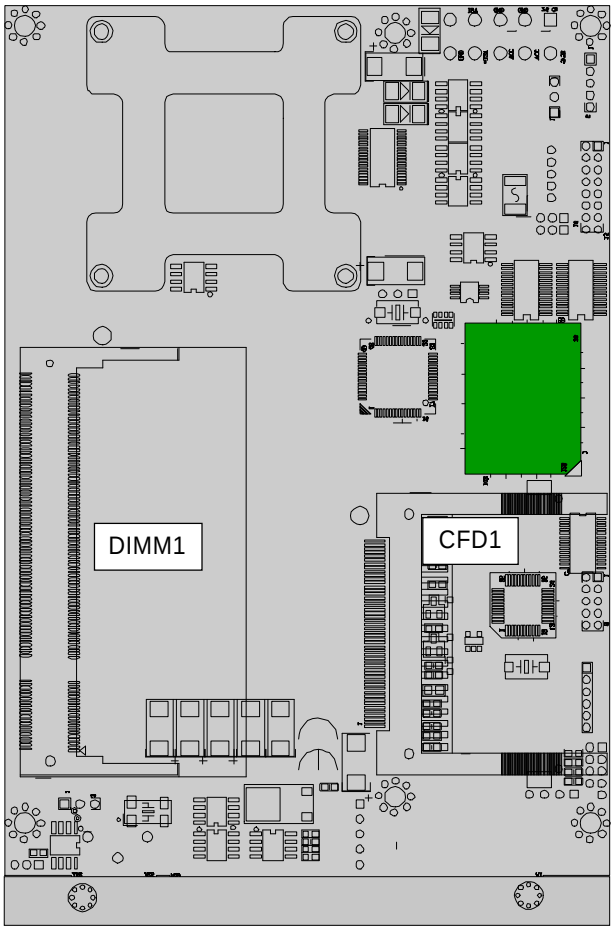
Before up and running, please make sure the package contains all of above accessories.

If any of the above items is damaged or missing, contact your vendor immediately.

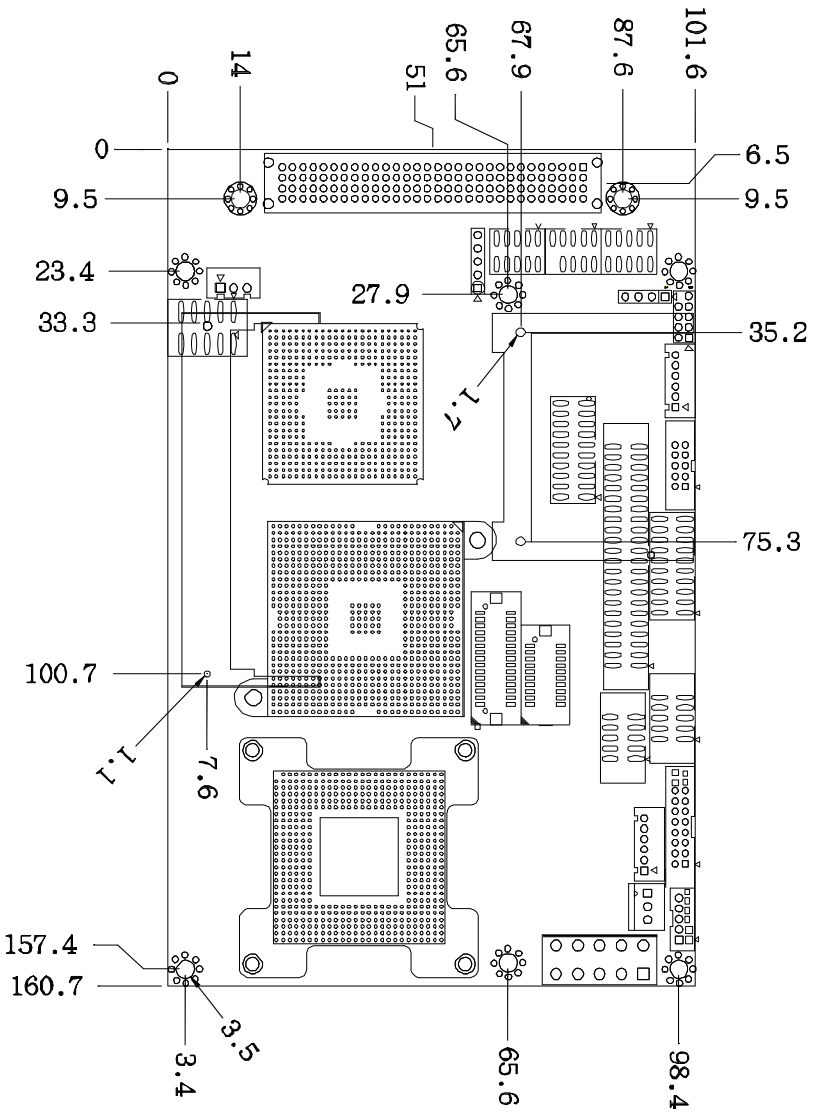
Board Layout (Front)



Board Layout (Back)



Board Dimension



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Specification

3301640		
System	CPU	Intel Ultra Low Voltage Celeron M 600MHz CPU
		FSB400MHz
		Intel Low Voltage Pentium M 1.4GHz CPU
		FSB400MHz
		Intel Pentium M Dothan Socket 478 CPU up to 2.0GHz
		FSB400MHz
		Intel Ultra Low Voltage Celeron M 1GHz CPU
		FSB400MHz
	Cache	CPU on die
	Memory	1 x 200Pin SO-DIMM up to 1GB DDR SDRAM
	Chipset	Intel 852GM + Intel ICH4
	BIOS	Phoenix-AWARD PnP Flash BIOS
	ATA/IDE	1 x Ultra DMA 33, support 2 IDE drives
	Flash Disk	1 x Type II Compact Flash Disk Socket
	Watchdog Timer	255-level Reset
I/O	Serial Port	2 x RS-232 ports (COM1/2)
	Parallel Port	SPP/EPP/ECP mode share with Floppy
	Floppy	Support 1 floppy disk drive share with LPT
	USB Port	6 x USB 2.0 compliant
	KB / MS	1 x PS2 K/B and Mouse
	Expansion Bus	1 x PC/104 Plus
Ethernet	Chipset	Intel 82856ET 10/100 base-T
		Built-in Boot ROM in Flash BIOS, support Boot from LAN
Audio	Codec/Interface	Realtek ALC655A AC97 Codec, support Mic-in / Line-in / Line-out
Display	Graphics Chipset	Intel 852GM Extreme Graphics2 Engine up to 64MByte
		UMA Video RAM
	Graphics Interface	CRT support CRT QXGA up to 2048 x 1536
		LCD support 18/36 bit LVDS UXGA up to 1600 x 1200
		TV-out support NTSC/PAL up to 1024 x 768
		DVI support 12bit up to 1024 x 768
		Dual Mode support independent dual display
Mechanical & Environmental	Power Consumption	3301640VL/CM600: +5V/3.2A 3301640VL/PM1600: +5V/6.3A
	Operating Temperature	0 ~ 60 C (32 ~ 140 F)
	Operating Humidity	5% ~ 95% (non-condensing)
	Dimension (L x W)	145 x 102mm (5.7" x 4")
	Weight	0.85 kg (0.19lb)

Jumper Quick Reference

Label	Function
JBAT1	CMOS Jumper Setting
JVLCD1	LVDS1 LCD Voltage selected
JFRT1	Switchs and Indicators
JV1-2	COM1 Power Source Special Support
JSMB1	External SMB Bus Connector

Connector Quick Reference

Label	Function
ATX1	10Pin ATX Power Connector
AUDIO1	Audio interface Port
CFD1	COMPACT FLASH DISK (Secondary IDE / Master)
CPUF1	CPU FAN Connector
COM1	RS232 Serial Port: COM1
COM2	RS232 Serial Port: COM2
DIMM1	DDRAM SODIMM Connector
KBM1	PS/2 Keyboard and Mouse
LPT1	FDD Connector / LPT (Share)
IDE1	Primary IDE Connector (ATA33)
PCI1	PICMG PCI Slot
USB1	USB Port 1,2
USB2	USB Port 3,4
USB3	USB Port 5,6
LAN1	10/100 LAN1 Connector
LLED1	LAN1 LED Connector
TMDS1	DVI Connector
LVDS1	Single or dual channel LVDS Panel Connector (DF13 30 pin)
INV1	LVDS1 LCD Inverter Connector
IR1	Infrared (IR) Connector
TV1	TV out Connector
VGA1	CRT SVGA Connector
LPC1	External Low Pin Count Connector
CN1	PC/104 Plus

CMOS Jumper Settings

Connector : **JBAT1**

Type : onboard 3-pin header

CMOS Setup (JBAT1)	JBAT1	
Keep CMOS	1-2	ON
Clear CMOS	2-3	ON

default setting : Keep CMOS

LCD Voltage Selection

Connector : **JVLCD1**
Type : onboard 3-pin header

LCD Voltage Selection	JV1	
5V	1-2	ON
3.3V	2-3	ON

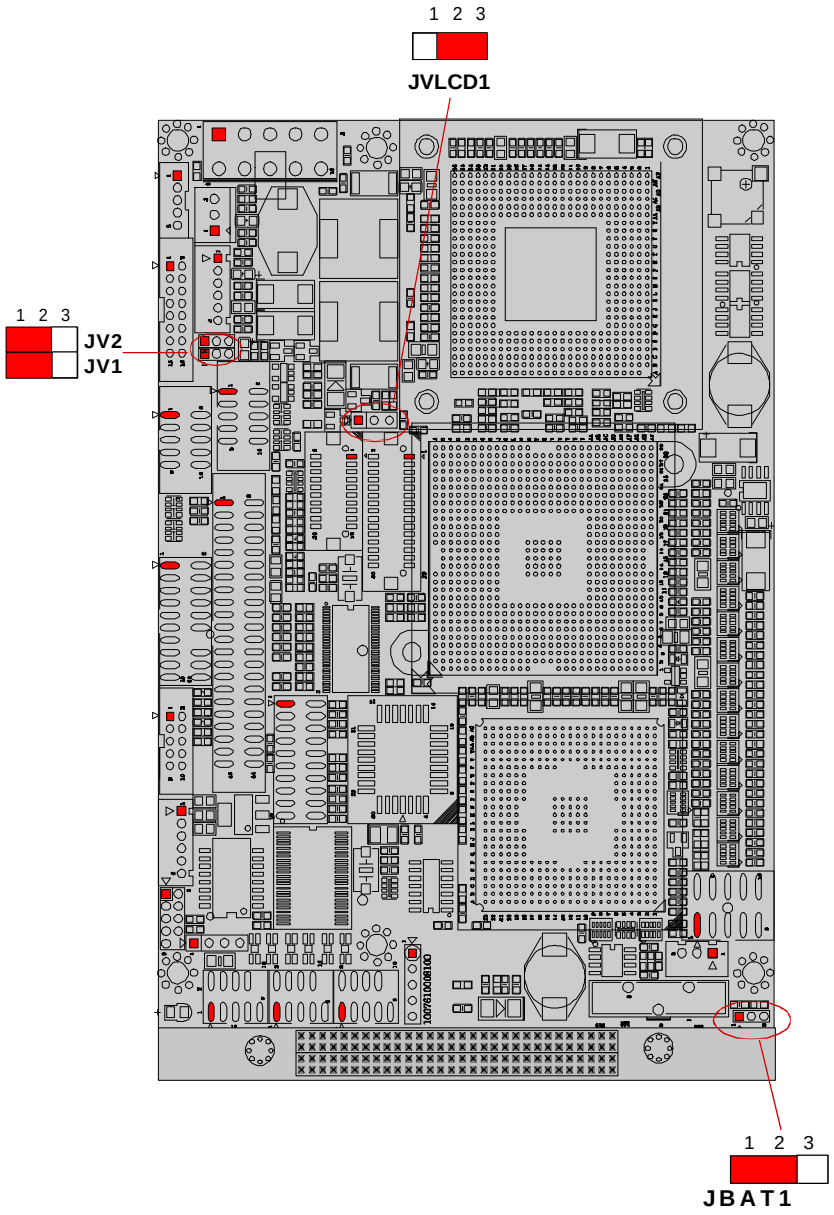
default setting : 3.3V

COM1 Power Source Special Support

Jumper : JV1 & JV2
Type : onboard 2*3-pin header

COM1 Power Source Special Support	JV1	JV2
Standard	1-2	1-2
POS:5V on pin 1	2-3	1-2
POS:12V on pin 9	1-2	2-3
POS:5V on pin 1 and 12V on pin 9	2-3	2-3

Default Setting: Standard

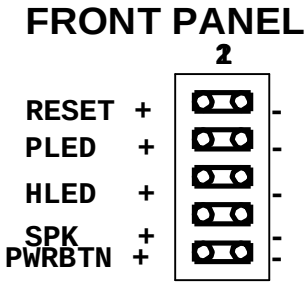

1 2 3
JVLCD1
1 2 3
JV2
JV1
1 2 3
JBAT1

Front Panel (Switches and Indicators)

Connector : **JFRT1**

Type: onboard 2.54pitch 10-pin (2*5) header

Pin	Description	Pin	Description
1	RESET +	2	RESET -
3	Power LED+	4	Power LED-
5	HD LED+	6	HD LED-
7	Speak+	8	Speak-
9	PWRBTN+	10	PWRBTN-



PWRBTN: ATX Soft Power Switch

RES: Reset Buttom

PLED: Power LED Conn.

HLED: HDD LED Conn

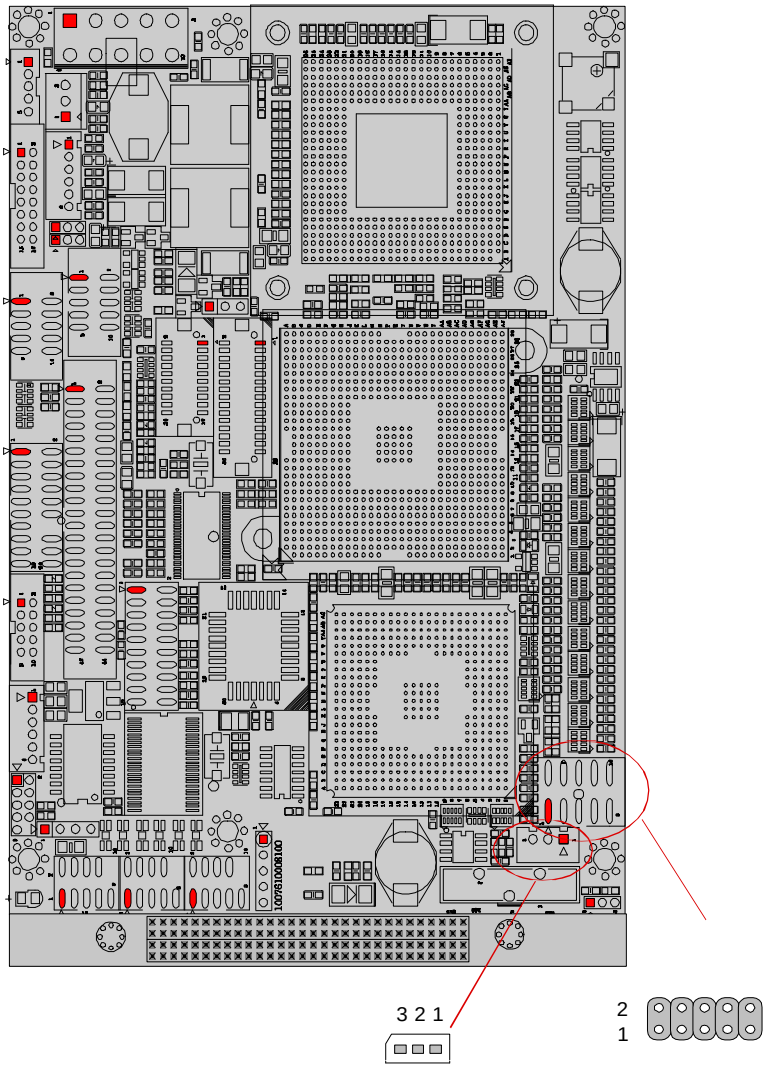
SPK: External Speaker

External SMBus Connector

Connector : JSMB1

Type : Onboard 2.54 pitch 3-pin wafer

Pin	Description
1	SMB_DATA
2	SMB_CLK
3	GND



JSMB1

ATX Power Connector

ATX Feature Connector:ATX1

Type : 10Pin ATX Power Connector 4.2mm

	Pin	Description	Pin	Description
	1	PS-ON	2	GND
	3	GND	4	+12V
	5	N/C	6	+5VSB
	7	+5V	8	+5V
	9	-12V	10	GND

Audio Interface Port

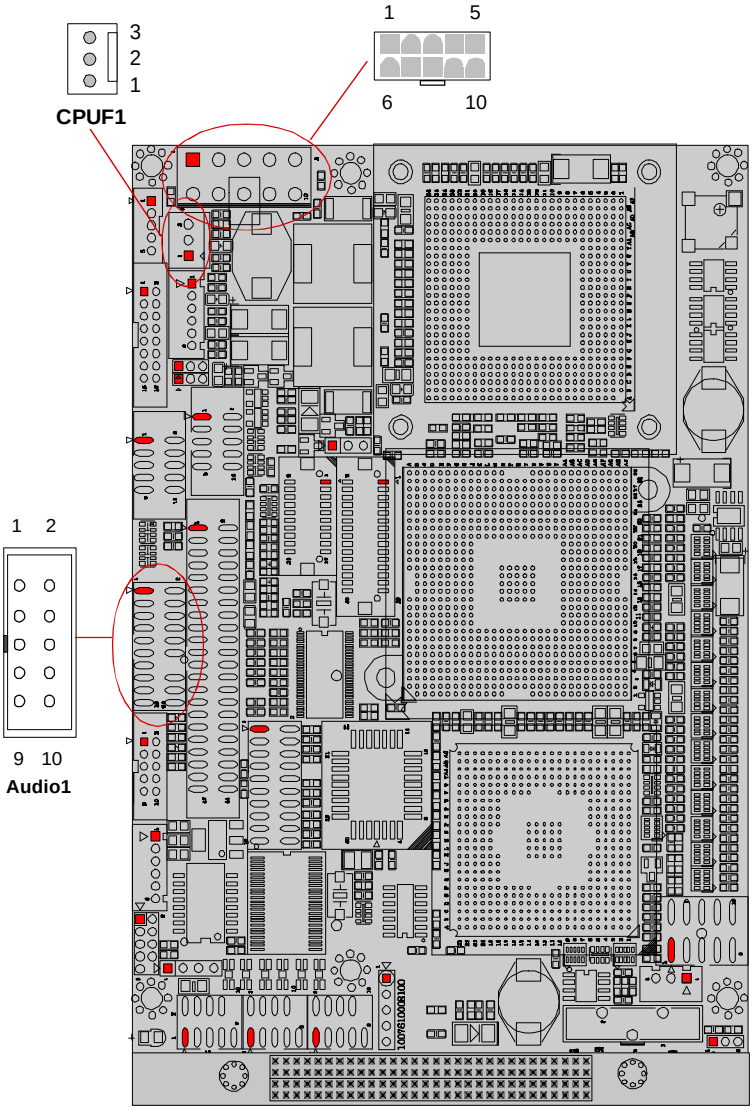
Connector : **AUDIO1**
Type : onboard 2*5 pin header

Pin	Description	Pin	Description
1	Line Left in	2	Line Right in
3	GND	4	GND
5	MIC	6	N/C
7	GND	8	GND
9	Speaker LEFT	10	Speaker Right

FAN Connector

Connector : CPUF1
Type: onboard 3-pin wafer connector

Pin	Description
1	GND
2	+12V
3	Fan_Detect


3
2
1
CPUF1
1
5
6
10
1
2
9
10
Audio1

RS-232 Serial Port

Connector : **COM1**
Type: onboard 10-pin box header

Pin	Description	Pin	Description
1	DCD1(+5V)	2	RXD1
3	TXD1	4	DTR1
5	GND	6	DSR1
7	RTS1	8	CTS1
9	RI1(+12V)	10	N/C

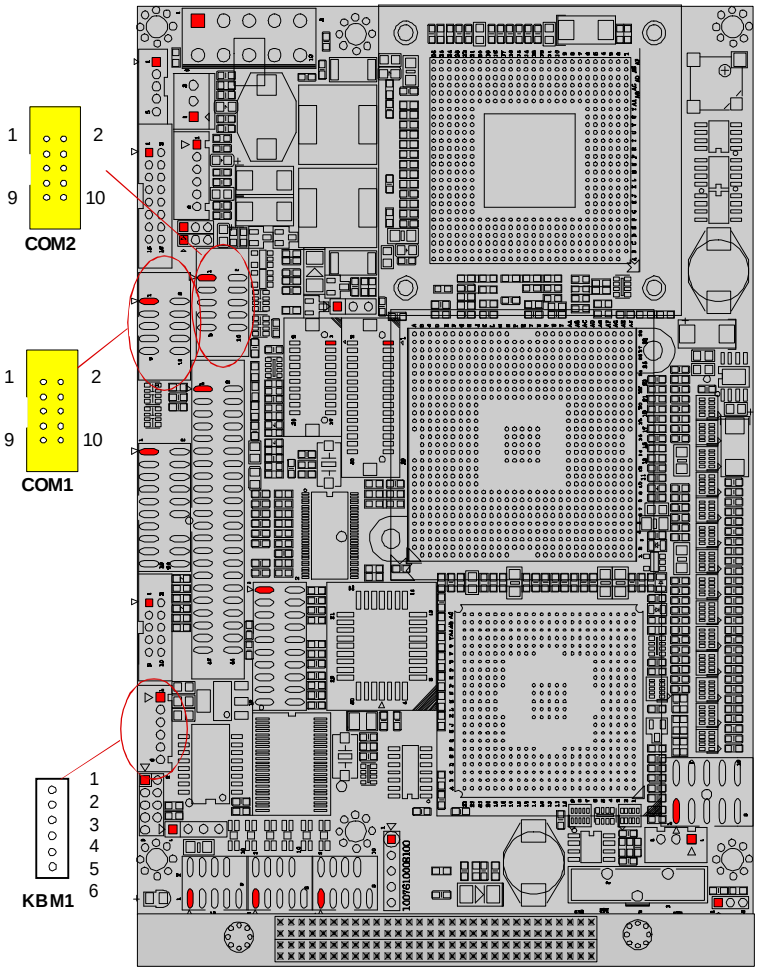
Connector : **COM2**
Type: onboard 10-pin box header

Pin	Description	Pin	Description
1	DCD2	2	RXD2
3	TXD2	4	DTR2
5	GND	6	DSR2
7	RTS2	8	CTS2
9	RI2	10	N/C

PS/2 Keyboard & Mouse

Connector: **KBM1**
Type: onboard 6-pin wafer connector

Pin	**Description**
1	KB_DATA
2	GND
3	MS_DATA
4	KB_CLK
5	+5V
6	MS_CLK


1
2
9
10
COM2
1
2
9
10
COM1
1
2
3
4
5
6
KBM1

Parallel Port Connector

Connector: LPT1

Type : Onboard 20-pin header

Pin	Description	Pin	Description
1	STROBE	2	AFD
3	PTD0	4	ERROR
5	PTD1	6	INIT
7	PTD2	8	SLIN
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	Key (N/C)
15	PTD6	16	BUSY
17	PTD7	18	PE
19	ACK	20	SELECT

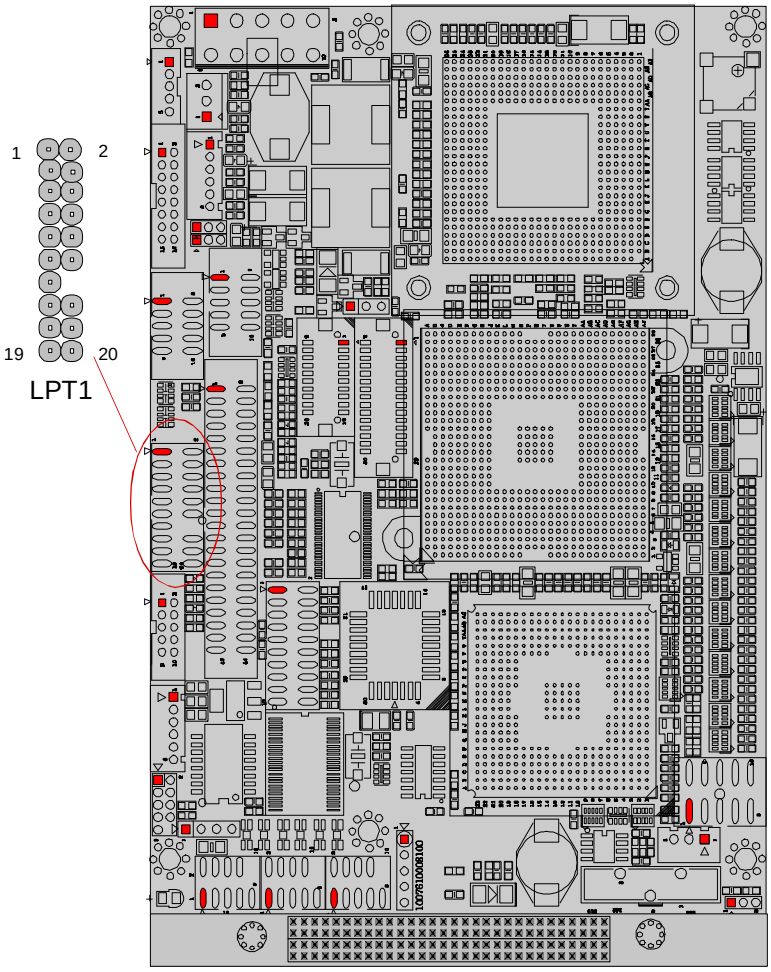
Floppy Drive Connector (LPT1)

LPT1 can be configured as a connector of floppy disk drive interface through BIOS setup.

Connector: LPT1

Type : Onboard 20-pin header

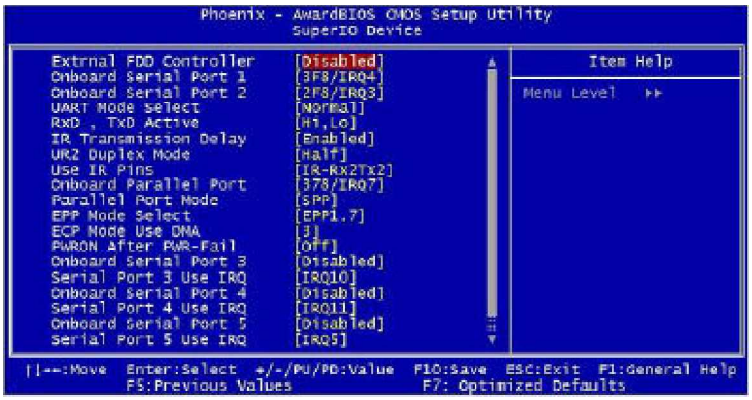
Pin	Description	Pin	Description
1	NC	2	RWC-
3	RINDEX-	4	HEAD-
5	TRAK0-	6	DIR-
7	WP-	8	STEP-
9	RDATA-	10	GND
11	DSKCHG-	12	GND
13	NC	14	Key (N/C)
15	PE	16	MOB-
17	DSA-	18	WD-
19	DSB-	20	WE-


1
2
19
20
LPT1

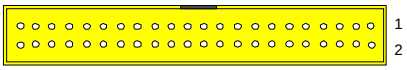
BIOS Setup

LPT1 can be configured as a connector of floppy disk drive interface through BIOS setup. The default is to set LPT1 as FDD connector. To change the value, get into BIOS setup -> [Integrated Periphreal] -> [Super IO Device].

BIOS Option	Setting	Description
External FDD Controller	Enabled	Set as Floppy Disk Drive Connector
Onboard Parallel Port	Disabled	
External FDD Controller	Disabled	
Onboard Parallel Port	378/IRQ7	Set as Parallel Port



Enhanced IDE Connector



Connector : **IDE1**
Type : One onboard 44-pin box header

Pin	Description	Pin	Description
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N/C
21	REQ	22	GND
23	IO RWITE	24	GND
25	IO READ	26	GND
27	IO READY	28	IDESEL
29	DACK	30	GND
31	IRQ14	32	N/C
33	ADDR1	34	ATA66 DETECT
35	ADDR0	36	ADDR2
37	CS#0	38	CS#1
39	IDEACTP	40	GND
41	+5V	42	+5V
43	GND	44	NC

USB Ports

Connector: **USB1, USB2 & USB3**
Type:onboard three 10-pin headers for two USB ports

Pin	Description	Pin	Description
1	+5V	2	+5V
3	USBD1-	4	USBD2-
5	USBD1+	6	USBD2+
7	GND	8	GND
9	GND	10	N/C

Fast Ethernet Connectors

Connector : **LAN1**
Type : Onboard 10-pin header

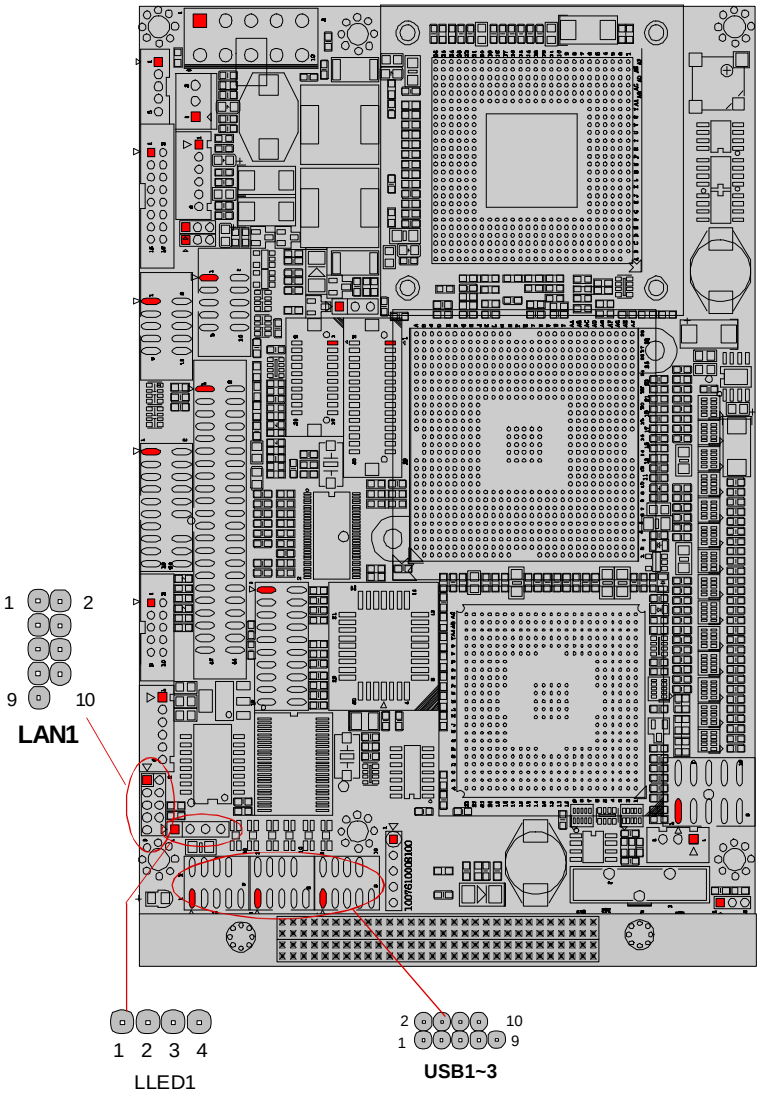
Pin	Description	Pin	Description
1	TX+	2	TX-
3	RX+	4	NC
5	NC	6	RX-
7	NC	8	NC
9	GND	10	Key

LAN LED Indicator

Connector : LLED1

TYPE : Onborad 4-pin header

Pin	Description
1	ACT-
2	ACT+
3	LILED-
4	LILED+


1
2
9
10
LAN1
1 2 3 4
LLED1
2
10
1
9
USB1~3

DVI Connector

Connector : TMDS1

Type: Onboard DF-13 20-pin header

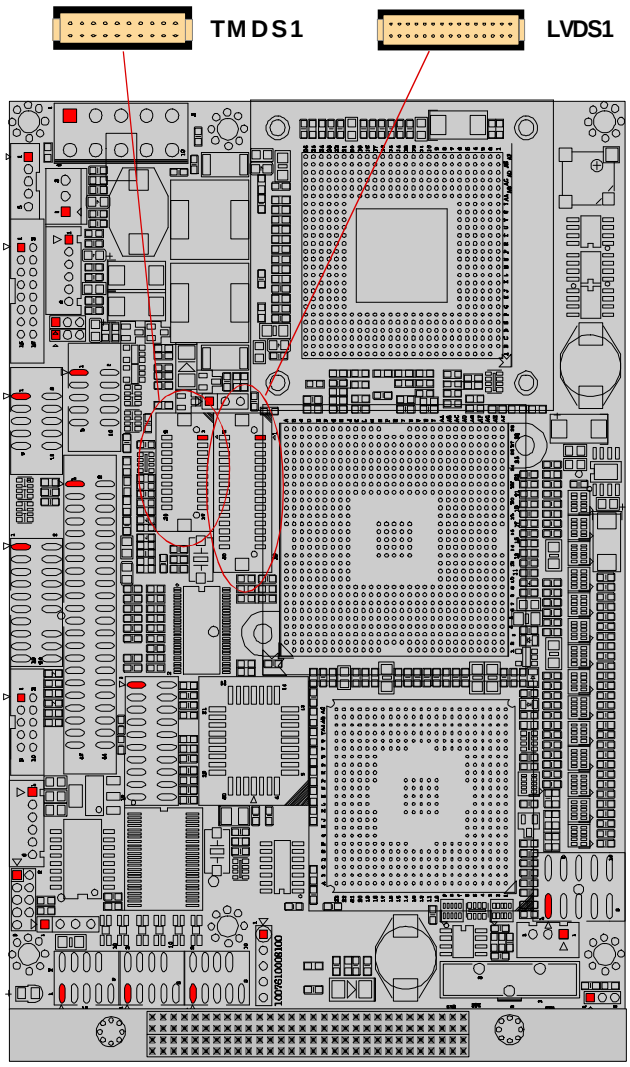
Pin	Description	Pin	Description
1	+5V	2	+5V
3	TX0+	4	TXC+
5	TX0-	6	TXC-
7	GND	8	GND
9	TX1+	10	DCC CLK
11	TX1-	12	DDC DATA
13	GND	14	GND
15	TX2+	16	HTPLG
17	TX2-	18	N/C
19	GND	20	N/C

LVDS LCD Connector

Connector : LVDS1

Type : onboard DF-13 30-pin header

Pin	**Signal**	**Pin**	**Signal**
1	VDD	2	VDD
3	TX1CLK+	4	TX2CLK+
5	TX1CLK-	6	TX2CLK-
7	GND	8	GND
9	TX1D0+	10	TX2D0+
11	TX1D0-	12	TX2D0-
13	GND	14	GND
15	TX1D1+	16	TX2D1+
17	TX1D1-	18	TX2D1-
19	GND	20	GND
21	TX1D2+	22	TX2D2+
23	TX1D2-	24	TX2D2-
25	GND	26	GND
27	TX1D3+	28	TX2D3+
29	TX1D3-	30	TX2D3-


TMDS1
LVDS1

LCD Inverter Connector

Connector : INV1

Type : Onboard 5-pin mini boxheader

Pin	Description	Pin	Description
1	+12 V	2	GND
3	on/off	4	brightness control
5	GND		

Infrared (IR) Connector

Connector : **IR1**
Type : onboard 5-pin header (2.54mm)

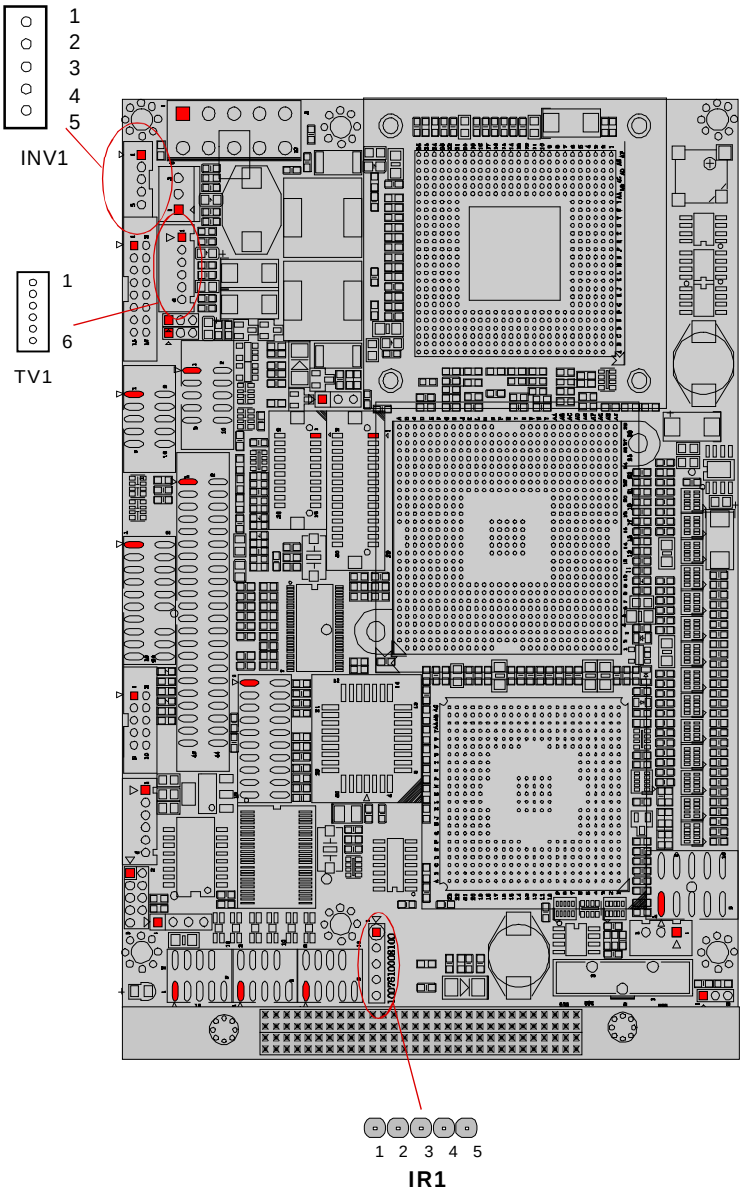
Pin	Description	Pin	Description
1	+5v	2	NC
3	IRRX	4	GND
5	IRTX		

TV-out Connector

Connector : TV1

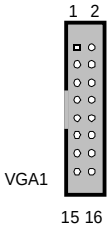
Type: onboard 6-pin mini boxheader

1	TV-CVBS
2	GND
3	TV_Y
4	GND
5	TV_C
6	GND


1
2
3
4
5
INV1
1
6
TV1
1 2 3 4 5
IR1

CRT SVGA Connector

Connector : **VGA1**
Type : onboard 16-pin box header



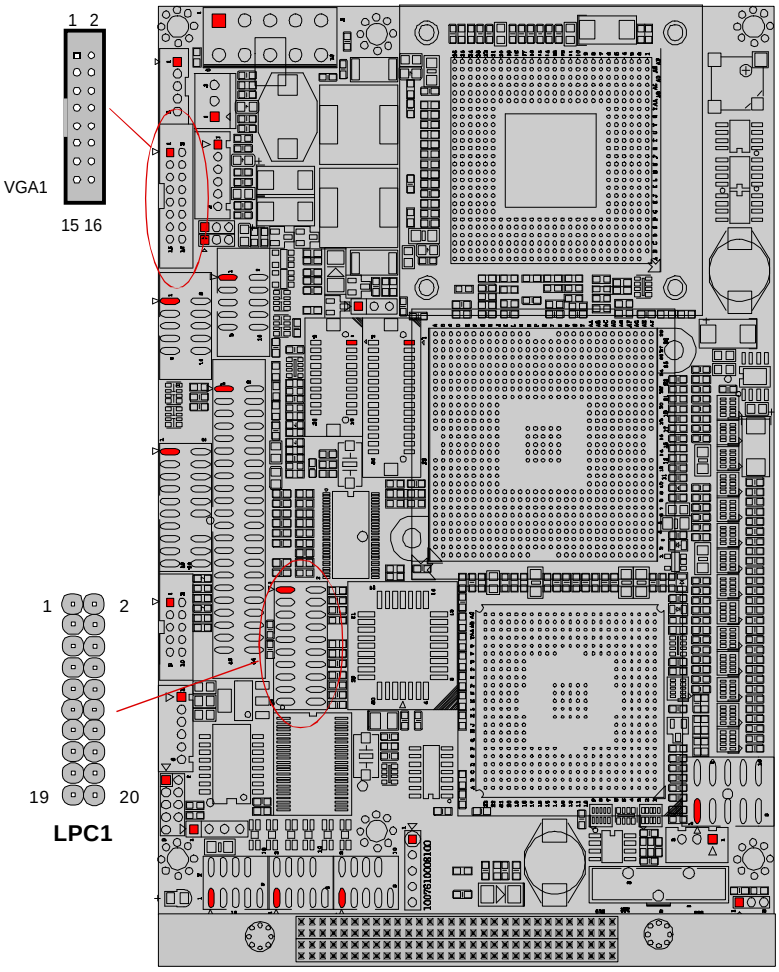
Pin	Description	Pin	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GROUND	6	GROUND
7	GROUND	8	GROUND
9	+5v (Poly S/W)	10	GROUND
11	N/C	12	VDDAT
13	HSYNC	14	VSYNC
15	VDCCLK	16	N/C

External Low Pin Count Connector

Connector: LPC1

Type onboard 20-pin 2.0mm PIN connector

Pin	Description	Pin	Description
1	+5V	2	+5V
3	LDRQ-	4	LFRAME-
5	SERIRQ	6	GND
7	LAD2	8	LAD3
9	LAD0	10	LAD1
11	PCIRST-	12	GND
13	SMBUS DATA	14	33MHz CLOCK
15	GND	16	SM BUS CLOCK
17	48MHz CLOCK	18	LPC PME-
19	+3.3V	20	+3.3V


1 2
VGA1
15 16
1 2
19 20
LPC1

PC/104 Plus Interface

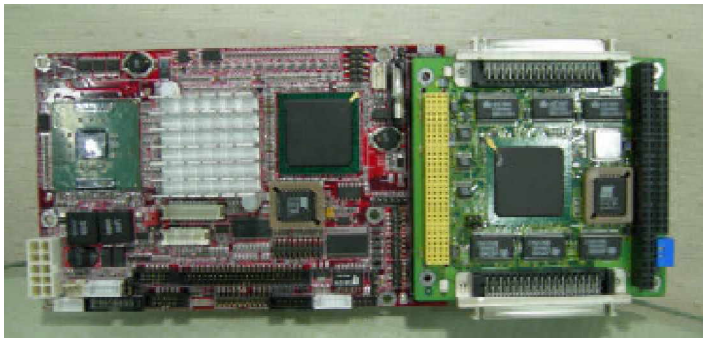
Connector: CN1

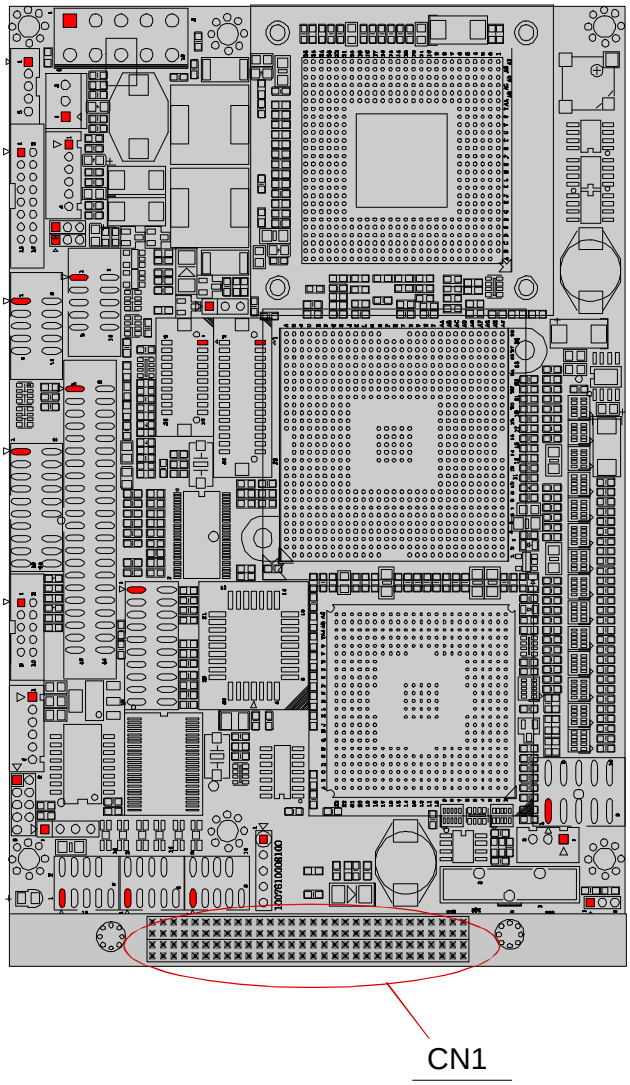
Rotary Switch Settings

	IDSEL	REQ	GNT	INT
PCI Slot 0	AD20	REQA	GNTA	INTA
PCI Slot 1	AD21	REQB	GNTB	INTB
PCI Slot 2	AD22	REQC	GNTC	INTC
PCI Slot 3	AD23	REQD	GNTD	INTD

Warning

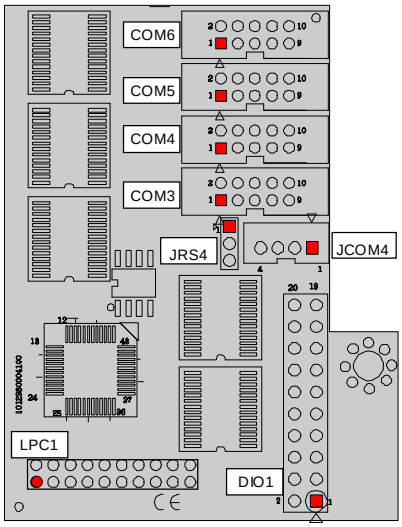
The direction of installing PC/104 card is shown as follow.




CN1

Daughter Board Information

3301640 can use with SCDB-1293 daughter board to have extra four serial ports and digital I/O function.



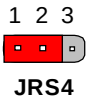
Jumper/Connector Quick Reference

Label	Function
JRS4	COM4 RS-232 / 485 Selection

Label	Function
COM 3, 4, 5, 6	RS-232 Serial Port 3, 4, 5, 6
JCOM4	RS-485 Serial Port : COM 4
DIO1	Digital I/O Connector
LPC1	External Low Pin Count Connector

COM4 RS-232 / 485 Select

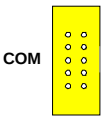
Jumper: JRS4
Type: JRS4: onboard 3-pin (1*3) header



JRS4 Selection	1-2	2-3
RS-232 (default)	ON	OFF
RS-485	OFF	ON

RS-232 Serial Port

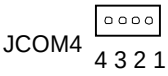
Conctor: COM3, COM4, COM5 & COM6
Type: onboard 10-pin holes



Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

RS-485 Output Connector

Connector: JCOM4
Type: onboard 2.0 pitch 4-pin header



Pin	RS-485
1	DATA+
2	DATA-
3	N.C
4	N.C

RS-485 is selected by JRS4, share with COM4 resource.

16-bit General Purpose I/O

Connector : **DIO1**
Type : Onboard 20-pin header

Pin	Description	Pin	Description
1	DIO1	2	DIO2
3	DIO3	4	DIO4
5	DIO5	6	DIO6
7	DIO7	8	DIO8
9	GND	10	GND
11	DIO9	12	DIO10
13	DIO11	14	DIO12
15	DIO13	16	DIO14
17	DIO15	18	DIO16
19	+5V	20	NC

External Low Pin Count Connector

Connector: LPC1
Type: onboard 2.0pitch 20-pin connector

Pin	Description	Pin	Description
1	+5V	2	+5V
3	NC	4	LFRAME-
5	SERIRQ	6	GND
7	LAD2	8	LAD3
9	LAN0	10	LAD1
11	PCIRST-	12	GND
13	SMBUS DATA	14	33MHZ CLOCK
15	GND	16	SMBUS CLOCK
17	48MHZ CLOCK	18	NC
19	+3.3V	20	+3.3V

AWARD BIOS Setup

The 3301640 uses the Award PCI/ISA BIOS for the system configuration. The Award BIOS setup program is designed to provide the maximum flexibility in configuring the system by offering various options which could be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

To access AWARD PCI/ISA BIOS Setup program, press <Del> key. The Main Menu will be displayed at this time.

Once you enter the AwardBIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features
Use this menu for basic system configuration.

Advanced BIOS Features
Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features
Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals
Use this menu to specify your settings for integrated peripherals.

Power Management Setup
Use this menu to specify your settings for power management.

PnP / PCI Configuration
This entry appears if your system supports PnP / PCI.

PC Health Status
This entry helps you to monitor the status of PC.

Frequency/Voltage Control
Use this menu to specify your settings for frequency/voltage control.

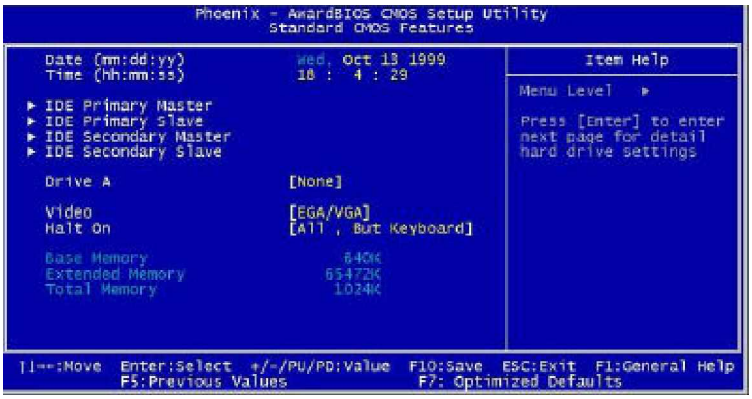
Load Optimized Defaults
Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Password
Use this menu to set User and Supervisor Passwords.

Save & Exit Setup
Save CMOS value changes to CMOS and exit setup.

Exit Without Save
Abandon all CMOS value changes and exit setup.

Standard CMOS Setup



Date
The BIOS determines the day of the week from the other date information; this field is for information only.

Time
The time format is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Press the « or (key to move to the desired field . Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

IDE Primary Master/Slave
IDE Secondary Master/Slave
Options are in sub menu

Drive A
Select the correct specifications for the diskette drive(s) installed in the computer.

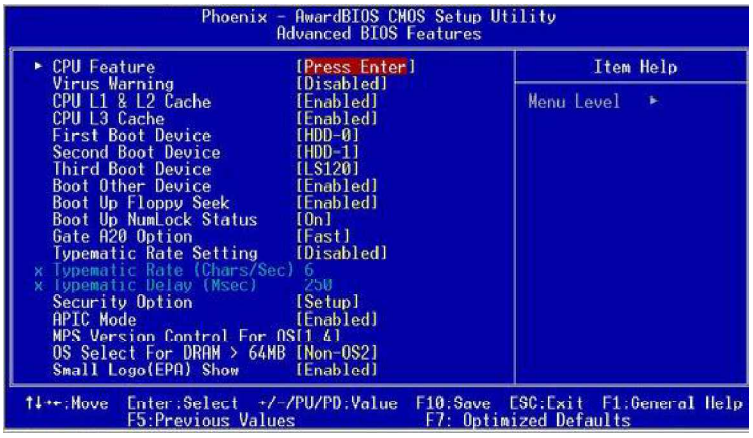
None :	No diskette drive installed
360K ;	5.25 in 5-1/4 inch PC-type standard drive
1.2M ;	5.25 in 5-1/4 inch AT-type high-density drive
720K ;	3.5 in 3-1/2 inch double-sided drive
1.44M ;	3.5 in 3-1/2 inch double-sided drive
2.88M ;	3.5 in 3-1/2 inch double-sided drive

Video Select the type of primary video subsystem in your computer. The BIOS usually detects the correct video type automatically. The BIOS supports a secondary video subsystem, but you do not select it in Setup.

Halt On During the power-on self-test (POST), the computer stops if the BIOS detects a hardware error. You can tell the BIOS to ignore certain errors during POST and continue the boot-up process. These are the selections:

No errors	POST does not stop for any errors.
All errors	If the BIOS detects any non-fatal error, POST stops and prompts you to take corrective action.
All, But Keyboard	POST does not stop for a keyboard error, but stops for all other errors.
All, But Diskette	POST does not stop for diskette drive errors, but stops for all other errors.
All, But Disk/Key	POST does not stop for a keyboard or disk error, but stops for all other errors.

BIOS Features Setup



Virus Warning
Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and beep.

Enabled Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

CPU L1 & L2 Cache
Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all,

CPU L3 Cache [Auto detect]
This item allows you to enable/disable CPU L3 Cache.
The choice: Enabled, Disabled.

First/Second/Third/Other Boot Device
The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The choices are : Floppy, LS/ZIP, HDD, SCSI, CDROM, Disabled.

Boot Up Floppy Seek
Seeks disk drives during boot up. Disabling speeds boot up.
The choice: Enabled/Disabled.

Boot Up NumLock Status
Select power on state for NumLock. The choice: Enabled/Disabled.

Gate A20 Option
Select if chipset or keyboard controller should control GateA20.
Normal A pin in the keyboard controller controls GateA20
Fast Lets chipset control GateA20

Typematic Rate Setting
Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.
The choice: Enabled/Disabled.

Security Option
Select whether the password is required every time the system boots or only when you enter setup.

System The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

APIC Mode
Setting it to Enabled is to extend the number of IRQ.

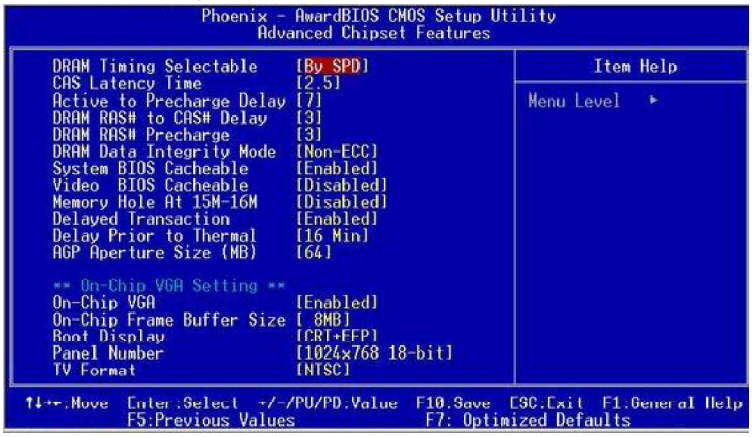
MPS Version Control For OS
This option is only valid for multiprocessor motherboards as it specifies the version of the Multiprocessor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors.

MPS version 1.4 added extended configuration tables to improve support for multiple PCI bus configurations and improve future expandability. It is also required for a secondary PCI bus to work without the need for a bridge. Newer versions of server operating systems will generally support MPS 1.4 and as such, you should change the BIOS Setup from the default of 1.1 to 1.4 if your operating system supports version 1.4. Leave it as 1.1 only if you are running older server OSes.

OS Select For DRAM > 64MB
Select the operating system that is running with greater than 64MB of RAM on the system.The choice: Non-OS2, OS2.

Small Logo(EPA) Show
[Enabled]: If you want to show your logo, please enable it.
[Disabled]: When this item disabled, logo(EPA) will not show on screen.

Advanced Chipset Features



DRAM Timing Selectable
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on DRAM timing.
The choices: By SPD (default), Manual

CAS Latency Time (Warning: Support CL-2 and CL-2.5 only)
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

Active to Precharge Delay
Delay that results when two different rows in a memory chip are addressed one after another.

DRAM RAS# to CAS# Delay
When RAS is asserted, there must be a small wait before the CAS can be pulled. This setting controls length of the wait. Like CAS latency, it's a delay before you get your data, so while your system is faster at a lower setting, it's also more stressful at that setting. Your RAM may handle it, or it may not.

DRAM RAS Precharge
The third part of the x-y-z notation used in SDRAM, the other two being CAS and RAS to CAS. Like its brethren, it's better lower but also more stressful lower. See the pattern 2.5 is only available with DDR.

DRAM Data Integrity Mode
This BIOS feature controls the ECC feature of the memory controller.

System BIOS Cacheable
Allows the system BIOS to be cached for faster system performance.

Video BIOS Cacheable
This item allows you to "Enabled" or "Disabled" on Video BIOS Cacheable.

Memory Hole At 15M-16M
If you enable this feature, 1MB of memory (the 15th MB) will be reserved exclusively for the ISA card's use. This effectively reduces the total amount of memory available to the operating system by 1MB. If you disable this feature, the 15th MB of RAM will not be reserved for the ISA card's use. The full range of memory is therefore available for the operating system to use. However, if your ISA card requires the use of that memory area, it may then fail to work.

Delayed Transaction
The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

Delay Prior to Thermal
Controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Pentium 4's Thermal Monitor should be activated in automatic mode after the system boots. For example, with the default value of 16 Minutes, the BIOS activates the Thermal Monitor in automatic mode 16 minutes after the system starts booting up.

AGP Aperture Size
Options : 4, 8, 16, 32, 64, 128, 256

This option selects the size of the AGP aperture. The aperture is a portion of the PCI memory address range dedicated as graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without need for translation. This size also determines the maximum amount of system RAM that can be allocated to the graphics card for texture storage.

AGP Aperture size is set by the formula : maximum usable AGP memory size x 2 plus 12MB. That means that usable AGP memory size is less than half of the AGP aperture size. That's because the system needs AGP memory (uncached) plus an equal amount of write combined memory area and an additional 12MB for virtual addressing. This is address space, not physical memory used. The physical memory is allocated and released as needed only when Direct3D makes a "create non-local surface" call.

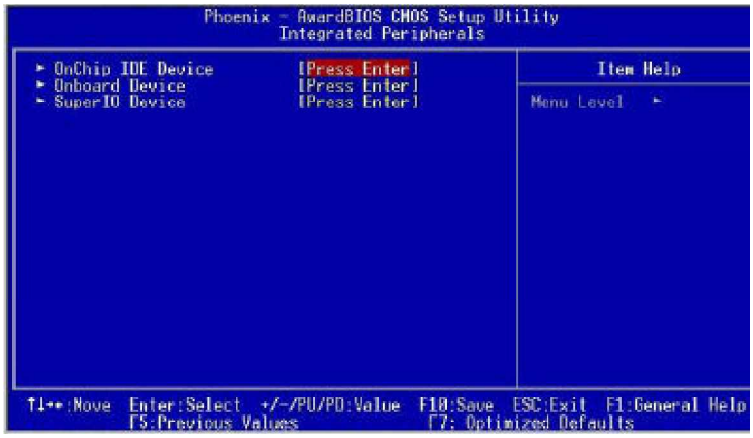
On-Chip VGA
If your system contains a VGA controller and you want to activate it, select Enabled. The next option will become available.

On-Chip Frame Buffer Size
The On-Chip Frame Buffer Size can be set to 1/4/8/16/32 MB. This memory is shared with system memory.

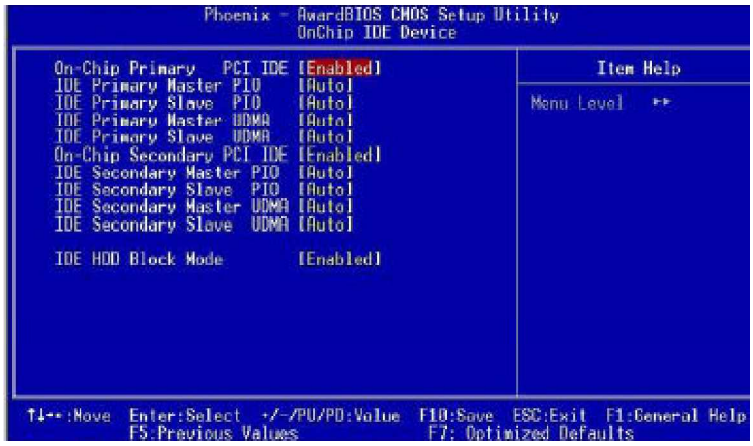
Boot Display
This option let you select the display devices.

Panel Number
This option let you select the type of panel.

Integrated Peripherals



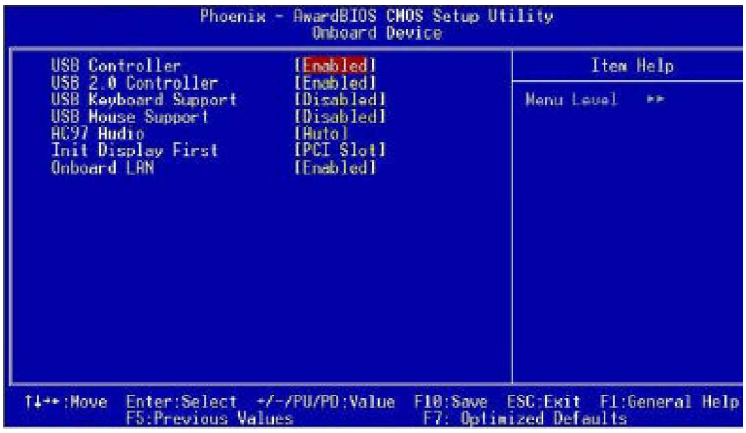
[Sub Menu]



OnChip Primary/Seconary IDE
Select "Enabled" to activate each on-board IDE channel separately, Select "Disabled", if you install an add-on IDE Control card

IDE HDD Block Mode
This feature enhances disk performance by allowing multi-sector data transfers and eliminates the interrupt handling time for each sector.

[Sub Menu]



USB Controller
Select "Enabled" to activate USB Controller, Select "Disabled", if you want to disable USB Controller.

USB 2.0 Controller
Select "Enabled" to activate USB 2.0 Controller, Select "Disabled", if you want to disable USB 2.0 Controller.

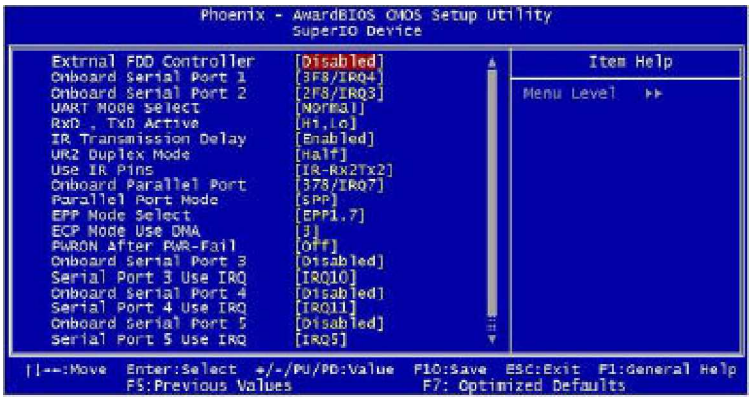
USB Keyboard Support
Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

USB Mouse Support
Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse.

AC97 Audio
AC97 Audio selection.

Init Display First
Select "AGP" or "PCI Slot" for system to detect first when boot-up.

Onboard LAN 1
Select "Enabled" if your system contains onboard LAN 1 supports.



Onboard FDC Controller

Select "Enabled" to activate the on-board FDD

Select "Disabled" to activate an add-on FDD

Onboard Serial Port 1 & 2

Select an address and corresponding interrupt for the first/second serial port. The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

UART Mode Select

This option allows you to select the IR communication mode.

Configuration options: [IrDA] [ASKIR] [Normal]

RXD, TXD Active

This option allows you to select the receiving and transmitting speed of IR peripherals. Options: [Hi,Hi], [Hi,Lo], [Lo,Hi] and [Lo,Lo].

IR Transmission Delay

This option allows you to decide to delay while IR transmission is transforming to receiveing mode. Configuration options: [Disable] [Enable]

IR2 Duplex Mode

This item allows you to select the IR half/full duplex function.

Use IR Pins

This item allows you to select IR transmission routes, IR-Rx2Tx2, RxD2 and TxD2.

Onboard Parallel Port

Select an address and corresponding interrupt for the parallel port.

Parallel Port Mode

This field allows you to set the operation mode of the parallel port. [SPP] allows normal-speed operation but in one direction only; [EPP] allows bidirec- tional parallel Port operation; [ECP] allows the parallel port to operate in bidirectional DMA mode; [ECP+EPP] allows normal speed operation in a two- way mode. Configuration options: [SPP] [EPP] ECP] [ECP+EPP] [Normal]

EPP Mode Select

You can use this feature to choose which version of EPP to use. For better performance, use EPP 1.9. But if you are facing connection issues, try setting it to EPP 1.7. Most of the time, EPP 1.9 will work perfectly well.

ECP Mode Use DMA

By default, the parallel port uses DMA Channel 3 when it is in ECP mode. This works fine in most situations.

PWRON After PWR-Fail

Allows you to set whether the system will reboot after power interruptions. Configuration options:[Off][On]

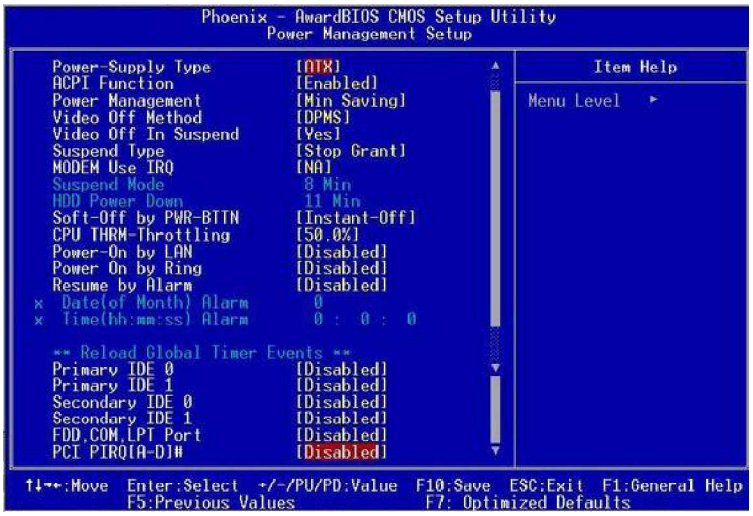
Onboard Serial Port 3~6

Select "Enabled" to activate the Serial Port

Serial Port 3~6 Use IRQ

Select an interrupt for these serial port

Power Management Setup



Power-Supply Type
Select the power-supply type.

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI). The choice: Enabled, Disabled.

Power Management
There are 4 selections for Power Management, 3 of which have fixed mode :

Disabled (default)	No power management. Disables all four modes.
Min. Power Saving	Minimum power management. Doze Mode = 1 hr., Standby Mode = 1 hr., Suspend Mode = 1 hr.,
Max. Power Saving	Maximum power management -- ONLY AVAILABLE FOR SL CPU's.. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr.

HDD Power Down is always set independently

Video Off Method
Controls what causes the display to be switched off
Suspend -> Off Always On All Mode -> Off

Video Off In Suspend

Controls what causes the display to be switched off

Suspend -> Off Always On All Mode -> Off

Suspend Type

S1 (POS) Power On suspend

All devices are powered up except for the clock synthesizer. The Host and PCI clocks are inactive and PIIX4 provides control signals and 32-kHz Suspend Clock (SUSCLK) to allow for DRAM refresh and to turn off the clock synthesizer. The only power consumed in the system is due to DRAM Refresh and leakage current of the powered devices. When the system resumes from POS, PIIX4 can optionally resume without resetting the system, can reset the processor only, or can reset the entire system. When no reset is performed, PIIX4 only needs to wait for the clock synthesizer and processor PLLs to lock before the system is resumed. This takes typically 20 ms.

Modem Use IRQ

Name the interrupt request (IRQ) assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

Soft-off by PWR-BTTN

The field defines the power-off mode when using an ATX power supply. The Instant-Off mode means powering off immediately when pressing the power button. In the Delay 4 Sec mode, the system powers off when the power button is pressed for more than four seconds or places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or resume by ring activity when press for less than four seconds. The default is 'Instant-Off'. This option allows you to set up the control ration of CPU temprature.

CPU THER-Throttling

When the temprature of CPU reached the preset temprature, this option will slow down the CPU speed. The ratio can be ranging from 12.5% to 87.5%, at the increment of 12.5%.

Power-On by LAN &Ring

This option decides to automatically start the system when detecting signal input of designated device. Configuration options: [Disable] [Enable]

Resume By Alarm

This option is to set up the time and date of automatically booting system.

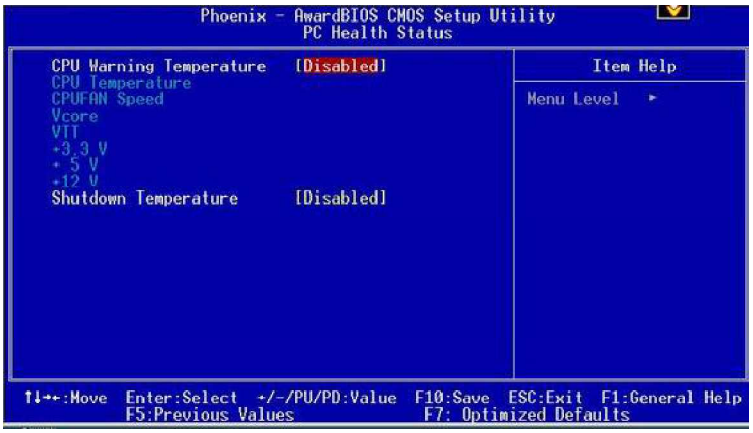
Date (of Month) Alarm

This option can set up the date of "Resume by Alarm" option. Option: 0~31.

Time (hh:mm:ss) Alarm

This option can set up the time of "Resume by Alarm" option. The format is <HH><MM><SS>.

PC Health Status



This section describes CPU temperature for the system.

Shutdown Temperature
This item allows you to set up the CPU shutdown Temperature. This item only effective under windows 98 ACPI mode.

CPU Temperature
These fields display the current CPU temperature, if your computer contains a monitoring system.

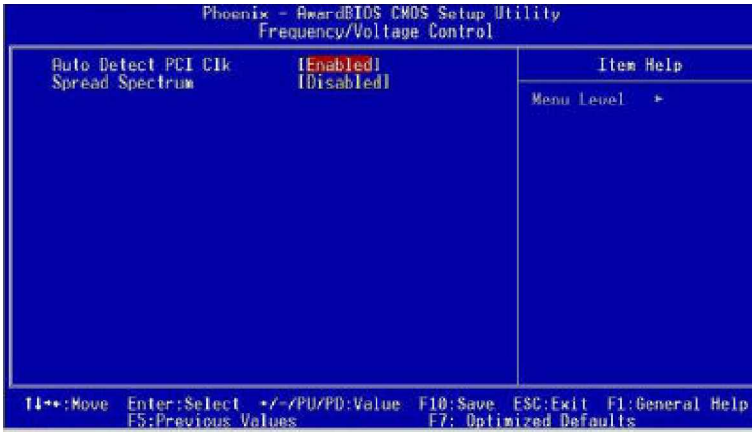
Vcore
These fields display the current voltage of up to seven voltage input lines, if your computer contiains a monitoring system.

VTT
One type of CPU voltage

+3.3V, +5V, +12V
Show you the voltage of +3.3V, +5V, +12V

CPUFAN Speed
These fields display the current speed of up to three CPU fans, if your computer contains a monitoring system.

Frequency/Voltage Control



This section describes Frequency and Voltage control for the system.

Auto Detect DIMM/PCI CLK
When enabled, this item will auto detect if the DIMM and PCI socket have devices and will send clock signal to DIMM and PCI devices. When disabled, it will send the clock signal to all DIMM and PCI socket.

Spread Spectrum
This item allows you to enable/disable the spread spectrum modulate.

Howto : Flash the BIOS

What do you need:

To flash your BIOS you'll need

1) a xxxxx.bin file that is a file image of the new BIOS

2) AWDFLASH.EXE a utility that can write the data-file into the BIOS chip.

The procedure:

Create a new, clean DOS (6 or higher) bootable floppy with "format a: /s".

Copy flash utility and the BIOS image file to this disk.

Turn your computer off. Insert the floppy you just created and boot the computer. As it boots up, hit the [DEL] key to enter the CMOS setup. Go to "LOAD SETUP (or BIOS) DEFAULTS," and then save and exit the setup program. Continue to boot with the floppy disk.

Type "AWDFLASH" to execute the flash utility. When prompted, enter the name of the new BIOS image and begin the flash procedure. Note: If you reboot now, you may not be able to boot again.

After the flash utility is complete, reboot the system.

Warranty

This product is warranted to be in good working order for a period of two years from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

Any advice or comments about our products and service, or anything we can help you with 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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