Global AMERICAN

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User's Manual

Single Board Computer 3301550

Version 1.0, August 2006

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Table of Contents

Safety Instructions

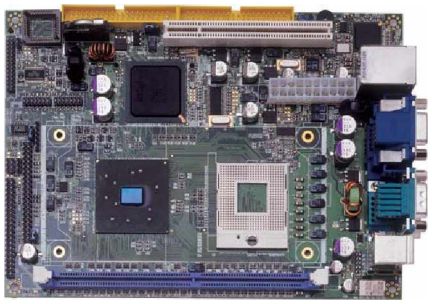
Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This helps to discharge any static electricity on your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components. Fasten the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please wear and connect the strap before handling the 3301550 to protect yourself from the discharge of any static electricity through the strap.
- Please use an anti-static pad when putting down any components or parts or tools outside the computer. You may also use an anti-static bag instead of the pad. Please inquire from your local supplier for additional assistance in finding the necessary anti-static gadgets.

NOTE: *DO NOT TOUCH THE BOARD OR ANY OTHER SENSITIVE COMPONENT WITHOUT ALL NECESSARY ANTI-STATIC PROTECTION.*

Chapter 1

General Description



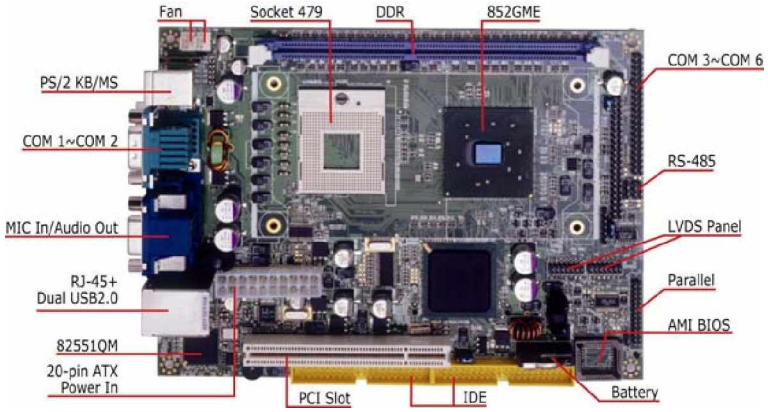
The 3301550A/3301550B is an Intel® 852GME GMCH/ICH4 chipset-based and 3301550A/3301550B is and Intel® 852GM GMCH/ICH4 chipset-based board designed embedded engine board. 3301550A/3301550B provides Intel® Pentium® M/Celeron® M processor 1.3~2.8GHz, and 3301550A/3301550B provides ULV Intel® Celeron® M processor 600MHz. The combination of these features makes the 3301550A/3301550B an ideal all-in-one industrial embedded engine board. Additional features include an enhanced I/O with CF reader, CRT/LVDS Panel, LAN, audio, 6 COM and USB2.0 port interface.

Its onboard ATA/33/66/100 connected to IDE drive interface architecture allows the 3301550A/3301550B to support data transfers of 33, 66 or 100MB/sec. for each IDE drive connection. The display controller is Intel® 82852GME (3301550A)/852GM (3301550B) for CRT display supporting up to 1600 x 1200. It also provides 18-bit single channel/36-bit dual channel LVDS Panel display interface.

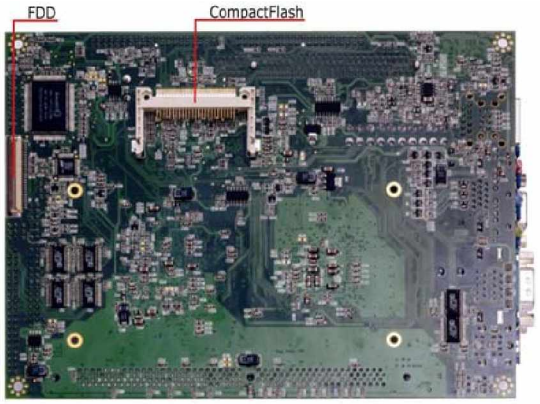
System memory is also sufficient with the one DDR socket that can support up to 1GB. It also provides one IDE interface Type II CompactFlash card adapter connector.

Additional onboard connectors include two internal and two external USB2.0 ports providing faster data transmission, and one external RJ-45 connector for use of one 10/100 Base-TX Ethernet interfaces.

1.1 Major Features



Front Side



Solder Side

The 3301550A/3301550B comes with the following features:

- 3301550 provides Intel® Pentium® M/Celeron® M processor 1.3~2.0GHz
  3301550M provides ULV Intel Celeron M processor 600MHz/512K L2 cache
- 3301550 provides 400/533MHz FSB
- One DDR socket with a max. capacity of 1GB
- 3301550A use Intel® 852GME GMCH/ICH4 system chipset
- 3301550B use Intel® 852GM GMCH/ICH4 system chipset

Winbond W83627HF super I/O chipset
3301550A use Intel® 852GME GMCH/ICH4 system chipset
3301550B use Intel® 852GM GMCH/ICH4 system chipset
LVDS Panel display interface
Intel® 82551QM fast Ethernet controller
AC97 3D audio controller
Fast PCI ATA/33/66/100 IDE controller
CompactFlash card adapter, six COM, four USB2.0 ports
Hardware Monitor function

1.2 Specifications

CPU:

3301550 provides:

Intel® Pentium® M processor 760 2.0GHz

Intel® Pentium® M processor 745 1.8GHz

Intel® Celeron® M processor 370 1.5GHz

Intel® Celeron® M processor 320 1.3GHz

3301550M provides ULV Intel® Celeron® M processor 600MHz/512K L2 cache

Front Side Bus: Supports 400/533MHz FSB (only 3301550A)

Memory: One DDR socket supporting up to 1GB

Chipset: Intel® 852GME GMCH/ICH4 (3301550A), Intel® 852GM GMCH/ICH4 (3301550B)

I/O Chipset: Winbond W83627HF

CompactFlash: One, Type II IDE interface adapter

PCI Slot: One standard PCI slot

VGA: Intel® 82852GME (3301550A) / Intel® 82852GM (3301550B) supporting CRT display up to 1600 x 1200

LVDS Panel: Supports 18-bit single channel/36-bit dual channel LVDS interface

Ethernet: Intel® 82551QM 10/100 Based LAN

Audio: AC97 3D audio controller

IDE: Four IDE disk drives supporting ATA/33/66/100 with transfer rates of up to 33/66/100MB/sec.

FDD: Supports one slim floppy disk drive

Parallel: One enhanced bi-directional parallel port supporting SPP/ECP/EPP

Serial Port: 16C550 UART-compatible RS-232/485 x 1 and RS-232 x 5 serial ports with 16-byte FIFO

USB: Four USB2.0 ports, two internal and two external

Keyboard: PS/2 6-pin Mini DIN

Mouse: PS/2 6-pin Mini DIN

BIOS: AMI PnP Flash BIOS

Watchdog Timer: Software programmable time-out intervals from 1~256 sec.

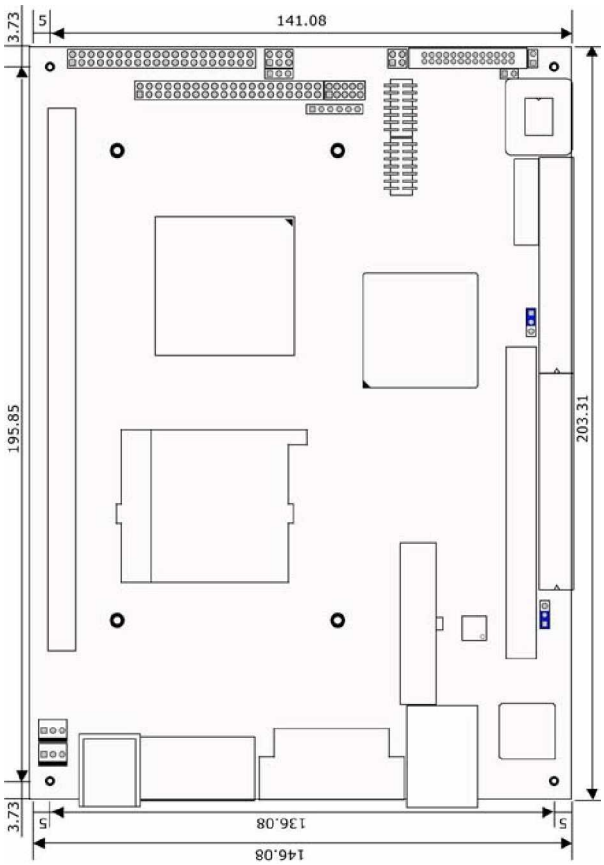
CMOS: Battery backup

Temperature: 0~+60°C (operating)

Hardware Monitor: Winbond W83627HF

Board Size: 20.3(L) x 14.6(W) x 3.3(H) cm

1.3 Board Dimensions



Chapter 2

Unpacking

2.1 Opening the Delivery Package

The 3301550A/3301550B is packed in an anti-static bag. The board has components that are easily damaged by static electricity. Do not remove the anti-static wrapping until proper precautions have been taken. Safety Instructions in front of this manual describe anti-static precautions and procedures.

2.2 Inspection

After unpacking the board, place it on a raised surface and carefully inspect the board for any damage that might have occurred during shipment. Ground the board and exercise extreme care to prevent damage to the board from static electricity.

Integrated circuits will sometimes come out of their sockets during shipment. Make sure all integrated circuits, particularly the BIOS, processor, memory modules, ROM-Disk, and keyboard controller chip are firmly seated. The 3301550A/3301550B delivery package contains the following items:

* 3301550A/3301550B Board x 1
* Utility CD Disk x 1
* Cables Package x 1
* Cooling Fan & Heat Sink x 1
* Jumper Bag x 1
* User's Manual

Cables Package	
NO.	**Description**
1	Four COM flat cable x 1
2	ATA/100 IDE flat cable x 2
3	Two USB flat cable with bracket x 1
4	MIC/Audio flat cable with bracket x 1
5	Floppy cable x 1
6	Printer flat cable with bracket x 1

Chapter 3

Hardware Installation

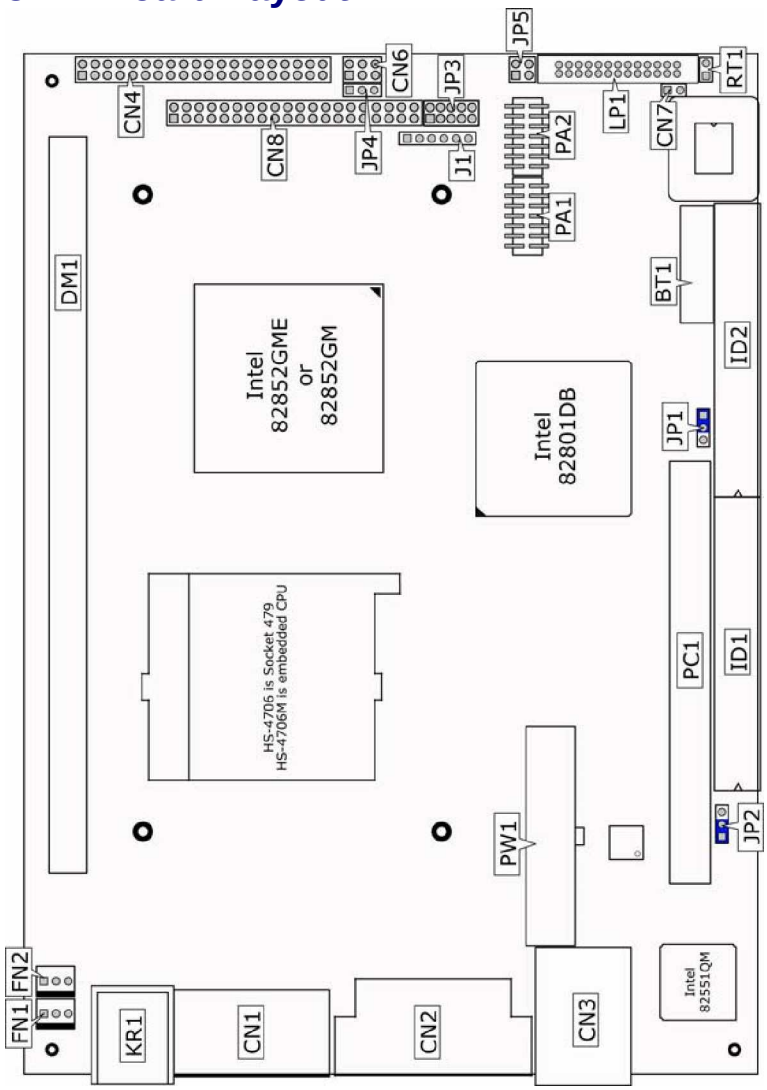
This chapter provides the information on how to install the hardware using the 3301550A/3301550B. This chapter also contains information related to jumper settings of switch, watchdog timer etc.

3.1 Before Installation

After confirming your package contents, you are now ready to install your hardware. The following are important reminders and steps to take before you begin with your installation process.

1. Make sure that all jumper settings match their default settings and CMOS setup correctly. Refer to the sections on this chapter for the default settings of each jumper. (Set JP1 1-2)
2. Go through the connections of all external devices and make sure that they are installed properly and configured correctly within the CMOS setup. Refer to the sections on this chapter for the detailed information on the connectors.
3. Keep the manual and diskette in good condition for future reference and use.

3.2 Board Layout



3.3 Jumper List

Jumper	Default Setting	Setting	Page
JP1	Clear CMOS: *Normal Operation*	Short 1-2	19
JP2	Onboard LAN Function Enabled/Disabled Select: *Enabled*	Short 1-2	18
JP3	COM 4 Use RS-232 or RS-422/485 Select: *RS-232*	Open	17
JP4	Panel Voltage Select: *+3.3V*	Short 2-3	11
JP5	CPU FSB Frequency Select: *400MHz FSB*	Short 3-4	10

3.4 Connector List

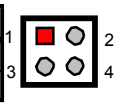
Connector	Definition	Page
CN1	COM 1/COM 2 Connector (DB9)	17
CN2 (1-15)	15-pin CRT Connector	11
CN2 (17-32)	External Audio Connector	23
CN3 (1-14)	RJ-45 Connector	18
CN3 (23-30)	Dual USB2.0 Ports	19
CN4	COM 3~COM 6 Connector (5x2 header)	17
CN6	RS-422/485 Connector (3x2 header)	17
CN7	2-pin ATX Power Switch	20
CN8 (1-16)	Control Panel Connector	21
CN8 (17-22)	LAN LED Connector	18
CN8 (25-32)	MIC In/Audio Out Connector	23
CN8 (33-40)	Internal USB2.0 Ports	19
CN9	CompactFlash Connector	23
DM1	DDR Socket	10
FD1	Floppy Connector	15
FAN1 / FAN2	Fan Power In Connector	20
ID1 / ID2	Primary/Secondary IDE Connector	13
J1	Inverter Power In Connector	11
KR1	PS/2 6-pin Mini DIN KB and MS Connector	21
LP1	Parallel Port	16
PA1 / PA2	LVDS Panel Connector	11
PC1	Standard PCI Slot	----
PW1	20-pin ATX Power In Connector	20

3.5 Configuring the CPU

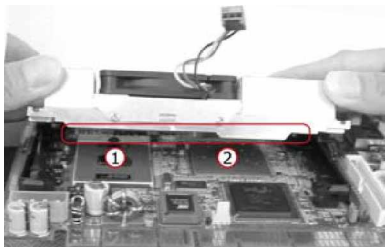
The 3301550 provides Intel® Pentium® M/Celeron® M processor 1.3~2.0GHz, and 3301550M provides ULV Intel® Celeron® M processor 600MHz/512K L2 cache. It offers the convenience in CPU installation with its auto-detect feature. 3301550 provides 400/533MHz FSB, if you want use 533MHz FSB, please setting *JP5* as follow table.

z JP5: CPU FSB Frequency Select (for 3301550 only)

Options	JP5(1-2)	JP5(3-4)
400MHz (default)	Open	Short
533MHz	Open	Open



Heat Sink Installation



Please smear the heat sink paste over CPU and 852GM GMCH chipset uniformly. Then secure the heat sink as the picture above

3.6 System Memory

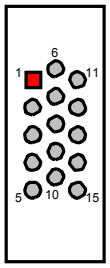
The 3301550A/3301550B provides one DDR socket at location *DM1*. The maximum capacity of the onboard memory is 1GB.

3.7 VGA Controller

The display controller is Intel® 82852GME (3301550A)/82852GM (3301550B) for CRT display supporting up to 1600 x 1200. 3301550A/3301550B also provides 18-bit single channel/36-bit dual channel LVDS display interface. The 3301550A/3301550B provides two methods of connecting VGA device. *CN2(1-15)* offers a single standard CRT connector (DB15), or *PA1/PA2* offer 18-bit/36-bit LVDS panel connectors.

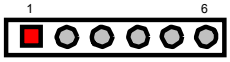
z CN2 (1-15): 15-pin CRT Connector (DB15)

PIN	Description	PIN	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	N/C	10	GND
11	N/C	12	SDA
13	HSYNC	14	VSYNC
15	SCL		



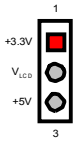
z J1: Inverter Power In Connector

PIN	Description
1	+12V
2	+12V
3	+5V
4	BackLight Enabled
5	LCD Enabled
6	GND



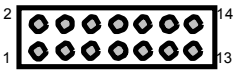
z JP4: Panel Voltage Select

Options	Settings
+5V	Short 1-2
+3.3V (default)	Short 2-3



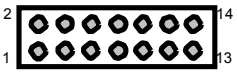
z PA1: LVDS Panel Connector

PIN	Description	PIN	Description
1	VCC3	2	VCC3
3	GND	4	GND
5	A0-	6	A0+
7	A1-	8	A1+
9	A2-	10	A2+
11	CLK1-	12	CLK1+
13	N/C	14	N/C



z PA2: LVDS Panel Connector

PIN	Description	PIN	Description
1	VCC3	2	VCC3
3	GND	4	GND
5	A4-	6	A4+
7	A5-	8	A5+
9	A6-	10	A6+
11	CLK2-	12	CLK2+
13	N/C	14	N/C



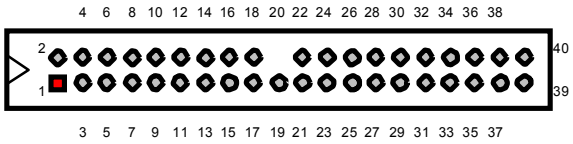
NOTE: *If using PA1 only, it just supports 18-bit single channel LVDS Panel; If you want to use 36-bit dual channel LVDS Panel, please using PA1 and PA2 combined.*

3.8 PCI E-IDE Drive Connector

ID1 and *ID2* are standard 40-pin daisy-chain driver connector that serves the PCI E-IDE drive provisions onboard the 3301550A/3301550B. A maximum of four ATA/33/66/100 IDE drives can be connected to the 3301550A/3301550B via *IDE1* and *IDE2*.

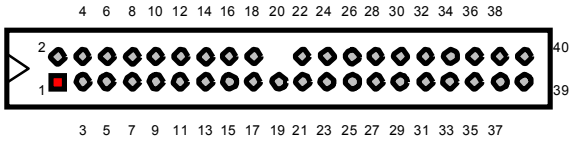
z ID1: Primary IDE Connector

PIN	Description	PIN	Description
1	RESET	2	GND
3	PDATA 7	4	PDATA 8
5	PDATA 6	6	PDATA 9
7	PDATA 5	8	PDATA 10
9	PDATA 4	10	PDATA 11
11	PDATA 3	12	PDATA 12
13	PDATA 2	14	PDATA 13
15	PDATA 1	16	PDATA 14
17	PDATA 0	18	PDATA 15
19	GND	20	N/C
21	PDREQ	22	GND
23	PIOW#	24	GND
25	PIOR#	26	GND
27	PIORDY	28	PD1-
29	PDACK-	30	GND
31	Interrupt	32	N/C
33	PDA1-	34	PATA66
35	PDA0-	36	PDA2-
37	PCS1-	38	PCS3-
39	HDD Active	40	GND



ID2: Secondary IDE Connector

PIN	Description	PIN	Description
1	RESET	2	GND
3	SDATA 7	4	SDATA 8
5	SDATA 6	6	SDATA 9
7	SDATA 5	8	SDATA 10
9	SDATA 4	10	SDATA 11
11	SDATA 3	12	SDATA 12
13	SDATA 2	14	SDATA 13
15	SDATA 1	16	SDATA 14
17	SDATA 0	18	SDATA 15
19	GND	20	N/C
21	SDREQ	22	GND
23	SIOW#	24	GND
25	SIOR#	26	GND
27	SIORDY	28	SD1-
29	SDACK-	30	GND
31	Interrupt	32	N/C
33	SDA1-	34	SATA66
35	SDA0-	36	SDA2
37	SCS1-	38	SCS3-
39	HDD Active	40	GND

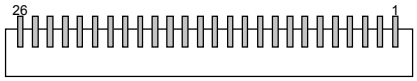


3.9 Floppy Disk Drive Connector

The 3301550A/3301550B uses a 26-pin connector, *FD1*, for one slim floppy disk drive connection.

z FD1: FDD Connector

PIN	Description	PIN	Description
1	Disk Select 1	14	N/C
2	GND	15	Direction #
3	Read Data #	16	N/C
4	GND	17	Motor Enable 0
5	Write Protect #	18	N/C
6	N/C	19	N/C
7	Track0 #	20	N/C
8	N/C	21	Disk Change #
9	Wgate #	22	VCC
10	GND	23	Driver 0
11	Write Data #	24	VCC
12	GND	25	Index #
13	Step #	26	VCC

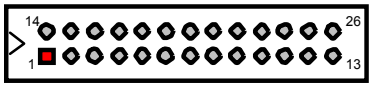


3.10 Parallel Connector

LP1 is a standard 26-pin flat cable connector designed to accommodate parallel port connection onboard the 3301550A/3301550B.

z LP1: Parallel Connector

PIN	Description	PIN	Description
1	Strobe	14	Auto Form Feed
2	DATA 0	15	ERROR#
3	DATA 1	16	Initialize
4	DATA 2	17	Printer Select LN#
5	DATA 3	18	GND
6	DATA 4	19	GND
7	DATA 5	20	GND
8	DATA 6	21	GND
9	DATA 7	22	GND
10	Acknowledge	23	GND
11	Busy	24	GND
12	Paper Empty	25	GND
13	Printer Select	26	GND

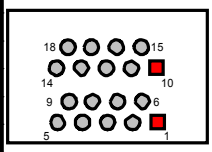


3.11 Serial Port Connectors

The 3301550A/3301550B offers NS16C550 compatible UARTs with Read/Receive 16-byte FIFO serial ports.

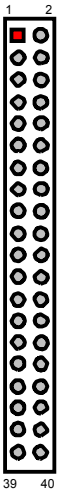
z CN1: COM 1/COM 2 Connector (DB9)

PIN	Description	PIN	Description
1	DCD1	10	DCD2
2	DSR1	11	DSR2
3	RXD1	12	RXD2
4	RTS1	13	RTS2
5	TXD1	14	TXD2
6	CTS1	15	CTS2
7	DTR1	16	DTR2
8	RI1	17	RI2
9	GND	18	GND



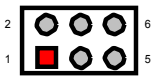
z CN4: COM 3~COM 6 Connector (5x2 header)

PIN	Description	PIN	Description
1	DCD3	2	DSR3
3	RXD3	4	RTS3
5	TXD3	6	CTS3
7	DTR3	8	RI3
9	GND	10	N/C
11	DCD4	12	DSR4
13	RXD4	14	RTS4
15	TXD4	16	CTS4
17	DTR4	18	RI4
19	GND	20	N/C
21	DCD5	22	DSR5
23	RXD5	24	RTS5
25	TXD5	26	CTS5
27	DTR5	28	RI5
29	GND	30	N/C
31	DCD6	32	DSR6
33	RXD6	34	RTS6
35	TXD6	36	CTS6
37	DTR6	38	RI6
39	GND	40	N/C



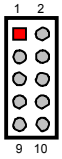
z CN6: RS-422/485 Connector (3x2 header)

PIN	Description	PIN	Description
1	TX-	2	TX+
3	RX+	4	RX-
5	GND	6	VCC



z JP3: COM 4 use RS-232 or RS-422/485 Select

Options	Settings
RS-232 (default)	All Open
RS-485 by AUTO	Short 5-7, 8-10
RS-485 by –RTS	Short 7-9, 8-10
RS-422 Full Deplex	Short 6-8

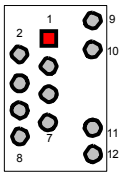


3.12 Ethernet Connector

The 3301550A/3301550B provides one 10/100 Base-TX LAN interface connector. Please refer to the following for its pin information.

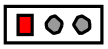
z CN3(1-14): RJ-45 Connector

PIN	Description	PIN	Description
1	RCT	2	TX+
3	TX-	4	RX+
5	RX-	6	N/C
7	N/C	8	N/C
9	N/C	10	RCT
11	Link LED	12	330Ω pull 3VSB
13	330Ω pull 3VSB	14	ACT LED



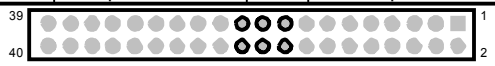
z JP2: Onboard LAN Function Enabled/Disabled Select

Options	Settings
Enabled (default)	Short 1-2
Disabled	Short 2-3



z CN8(17-22): LAN LED Connector

PIN	Description	PIN	Description
17	Link LED	18	330Ω pull 3VSB
19	ACT LED	20	330Ω pull 3VSB
21	Speed LED	22	330Ω pull 3VSB

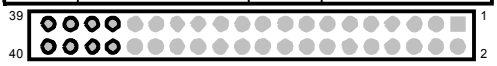


3.13 USB Connector

The 3301550A/3301550B provides one 8-pin internal connector at location *CN8(33-40)* and two 4-pin external connector, at locations *CN3(23-30)*, for four USB2.0 connections to the 3301550A/3301550B.

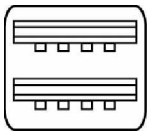
z CN8(33-40): Internal USB2.0 Connector

PIN	Description	PIN	Description
33	VCC	34	VCC
35	BD3-	36	BD4-
37	BD3+	38	BD4+
39	GND	40	GND



z CN3(23-30): External USB2.0 Connector

PIN	Description	PIN	Description
23	VCC	24	VCC
25	BD1-	26	BD2-
27	BD1+	28	BD2+
29	GND	30	GND



3.14 CMOS Data Clear

The 3301550A/3301550B has a Clear CMOS jumper on *JP1.*

z JP1: Clear CMOS

Options	Settings
Normal Operation (default)	Short 1-2
Clear CMOS	Short 2-3

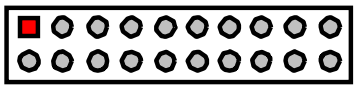
IMPORTANT: *Before you turn on the power of your system, please set JP1 to short 1-2 for normal operation.*

3.15 Power and Fan Connectors

3301550A/3301550B provides one 20-pin ATX power in connector at *PW1*, 2-pin ATX power switch at *CN7*.

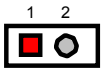
z PW1: 20-pin ATX Power In Connector

PIN	Description	PIN	Description
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWORK	18	-5V
9	+5Vsb	19	+5V
10	+12V	20	+5V



z CN7: 2-pin ATX Power Switch

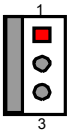
PIN	Description
1	Pull 220Ω to VCCSTBY
2	PS_ON



FAN1/FAN2 onboard 3301550A/3301550B is 3-pin fan power connector.

z FAN1/FAN2: Fan Power Connector

PIN	Description
1	GND
2	VCC12V
3	FAN Speed In

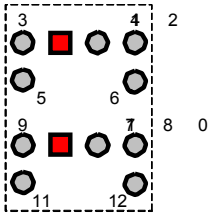


3.16 Keyboard/Mouse Connector

The 3301550A/3301550B offers one method for keyboard/mouse connections. The connections are done via *KR1* for an external PS/2 type keyboard/mouse connection.

z KR1: PS/2 6-pin Mini DIN Keyboard and Mouse Connector

PIN	Description	PIN	Description
1	Keyboard Data	7	Mouse Data
2	N/C	8	N/C
3	GND	9	GND
4	+5V	10	+5V
5	Keyboard Clock	11	Mouse Clock
6	N/C	12	N/C

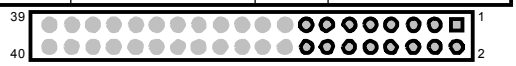


3.17 System Front Panel Connectors

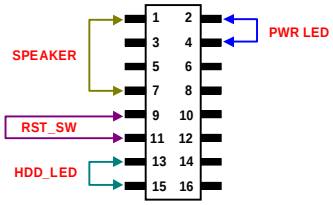
The 3301550A/3301550B has one system front panel at location *CN8(1-16)* that indicates the system front panel status.

z CN8(1-16): System Front Panel Connector

PIN	Description	PIN	Description
1	VCC	2	330Ω Pull VCC
3	GND	4	GND
5	GND	6	GND
7	Speaker	8	N/C
9	GND	10	100Ω Pull +5Vsb
11	Reset Button	12	N/C
13	330Ω Pull VCC	14	330Ω Pull +5Vsb
15	HDD LED	16	N/C



Connector CN8(1-16) Orientation



3.18 Watchdog Timer

Once the Enable cycle is active, a Refresh cycle is requested before the time-out period. This restarts counting of the WDT period. When the time counting goes over the period preset of WDT, it will assume that the program operation is abnormal. A System Reset signal will re-start when such error happens.

The following sample programs show how to Enable, Disable and Refresh the Watchdog Timer:

```
;--------------------------------------------------------------------------------
; Enter the WDT function mode, interruptible double-write
;--------------------------------------------------------------------------------
      MOV       DX, 2EH
      MOV       AL, 87H
      OUT       DX, AL
      OUT       DX, AL
      MOV       DX, 2EH
       MOV       AL, 07H
        OUT       DX, AL
      MOV       DX, 2FH
      MOV       AL,   08H
      OUT       DX,    AL
      MOV       DX, 2EH
      MOV       AL, F5H
      OUT       DX, AL                ; select CRF0
      MOV       DX, 2FH
      MOV       AL, 80H
      OUT       DX, AL
       MOV       DX, 2EH
       MOV       AL, F7H
      OUT       DX, AL
      MOV       DX, 2FH

      MOV       AL, 00H
      OUT       DX, AL
      MOV       DX, 2EH
      MOV       AL, F6H
      OUT       DX, AL
      MOV       DX, 2FH
      MOV       AL, 00H               ; * 00H=Disabled
      OUT       DX, AL
;--------------------------------------------------------------------------------
; Exit extended function mode
;------------- --------------------------------------------------------------------
      MOV       DX, 2EH
      MOV       AL, AAH
      OUT       DX, AL
```

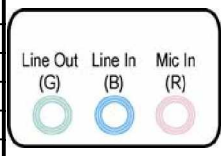
User can also use AL, 00H's defined time for reset purposes, e.g.00H for Disable, 01H = 1sec, 02H = 2sec to FFH = 255sec.

3.19 Audio Connectors

The 3301550A/3301550B has an onboard AC97 3D audio interface. The following tables list the pin assignments of the MIC In/Line Out connectors.

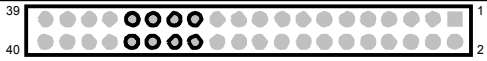
z CN2(17-32): Primary MIC In/Audio Out Connector

PIN	Description	PIN	Description
17	GND	25	GND
18	LINE_IN R	26	GND
19	GND	27	LINE_OUT L
20	GND	28	GND
21	GND	29	GND
22	LINE_IN L	30	GND
23	LINE_OUT R	31	GND
24	GND	32	MIC_IN 1



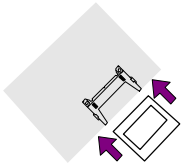
z CN8(25-32): Secondary MIC In/Audio Out Connector

PIN	Description	PIN	Description
25	Font LINE_OUT L	26	Font LINE_OUT R
27	GND	28	GND
29	MIC_IN 2	30	N/C
31	GND	32	GND



3.20 CompactFlash™ Connector

The 3301550A/3301550B also offers an optional CompactFlash™ connector which is IDE interface located at the solder side of the board. The designated *CN9* connector, once soldered with an adapter, can hold CompactFlash™ cards of various sizes. Please turn off the power before inserting the CF card. Inserting a CompactFlash™ card into the adapter is not a difficult task. The socket and card are both keyed and there is only one direction for the card to be completely inserted. Refer to the diagram below for the traditional way of inserting the card.



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Chapter 4

AMI BIOS Setup

The 3301550A/3301550B uses AMI BIOS for the system configuration. The AMI BIOS setup program is designed to provide the maximum flexibility in configuring the system by offering various options that could be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

4.1 Starting Setup

The AMI BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing <Del> immediately after switching the system on, or
2. By pressing the <Del> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP.

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to...

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP

4.2 Main Menu

BIOS SETUP UTILTIY

Main	**Advanced**	**PCIPnP**	**Boot**	**Security**	**Chipset**	**Power**	**Exit**

System Overview

AMIBIOS

Version :08.00.11
Build Date :03/09/06
ID :3301550

Processor

Tyep :Intel(R) Celeron(R) M processor
Speed :1499MHz
Count :1

System Memory

Size :248MB

System Time [00:09:44]
System Date [Tue 01/01/2002]

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.

Use [+] or [-] to configure system Time.

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

4.3 Advanced Settings

BIOS SETUP UTILTIY

Main	**Advanced**	PCIPnP	Boot	Security	Chipset	Power	Exit

Advanced Settings

WARNING: Setting wrong values in below sections may cause system to malfunction.

- x CPU Configuration
- x IDE Configuration
- x Floppy Configuration
- x SuperIO Configuration
- x Hardware Health Configuration
- x ACPI Configuration
- x MPS Configuration
- x Smbios Configuration
- x USB Configuration

Configure CPU.

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field F1
	General Help
F10	Save and Exit
ESC	Exit

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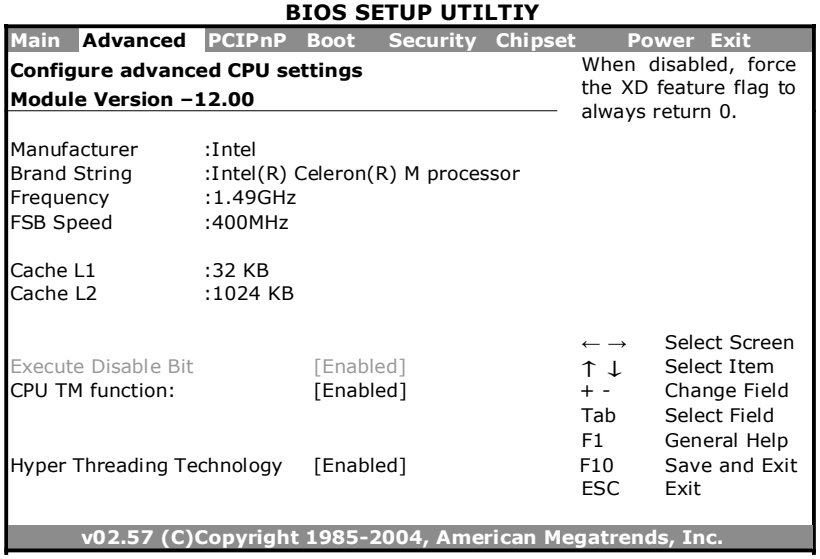
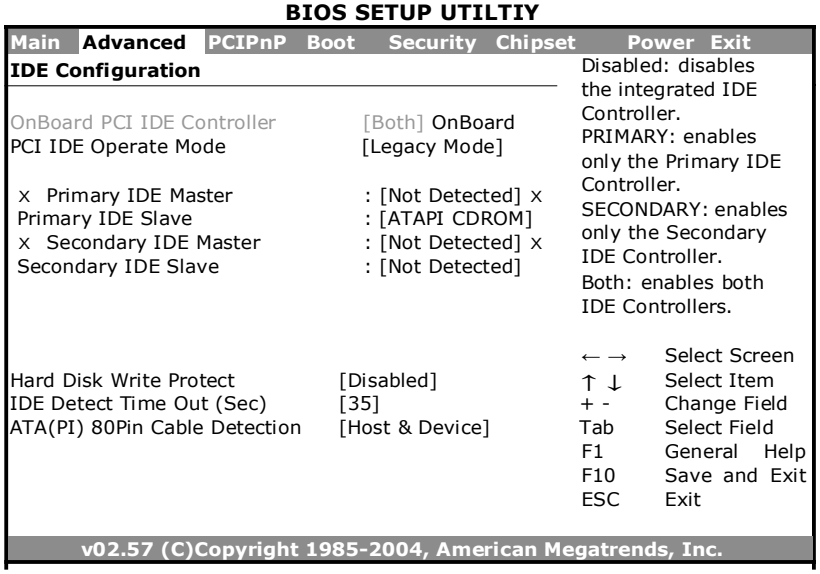
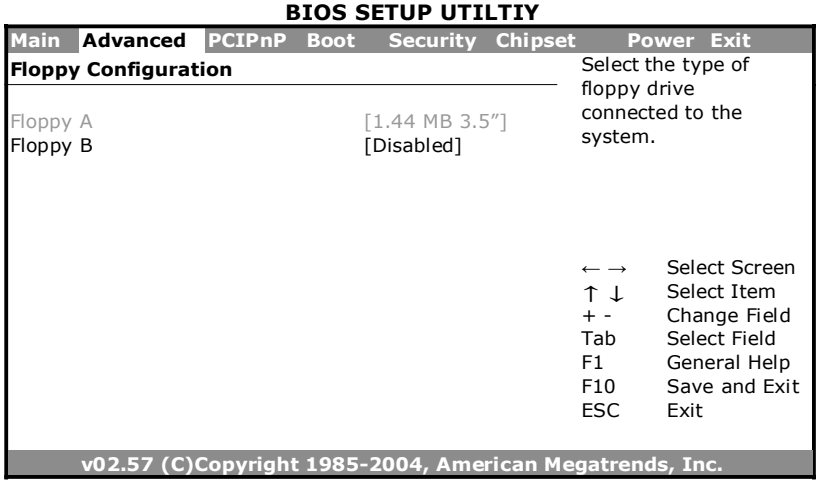
BIOS SETUP UTILTIY



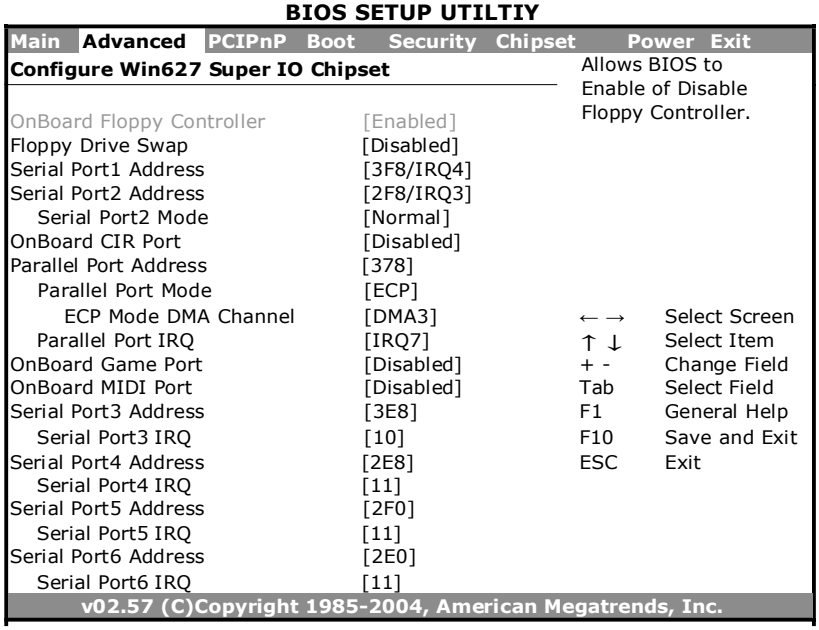
BIOS SETUP UTILTIY



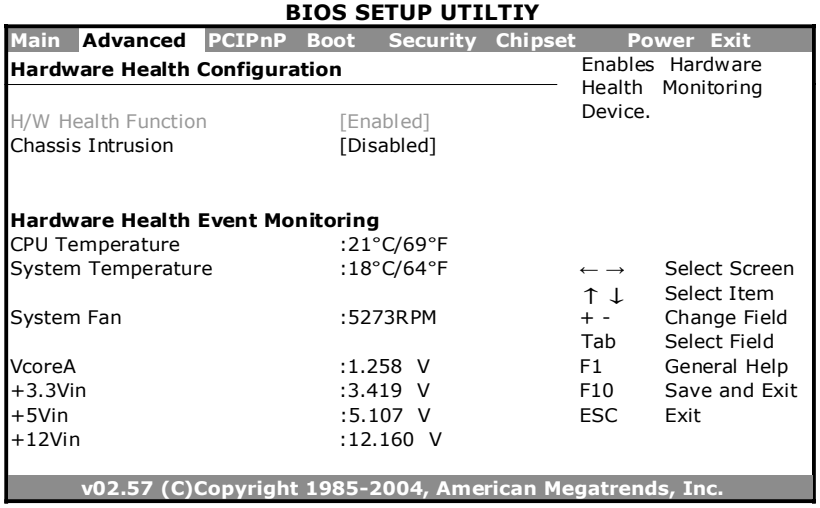
BIOS SETUP UTILTIY



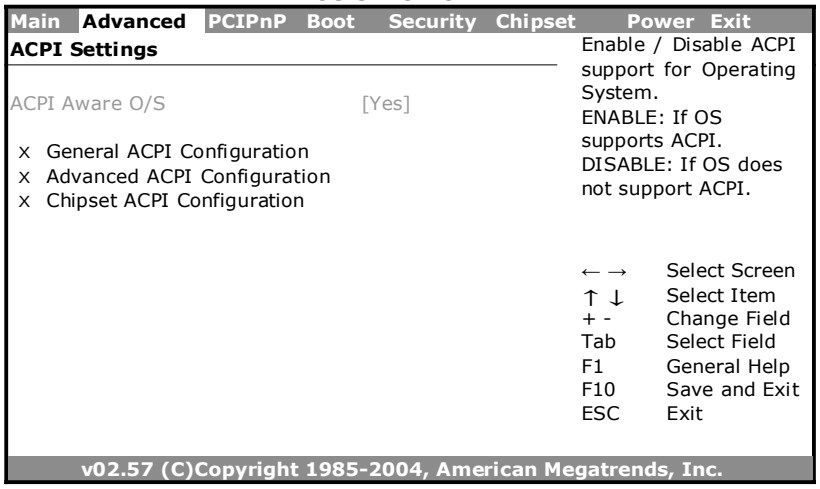
BIOS SETUP UTILTIY



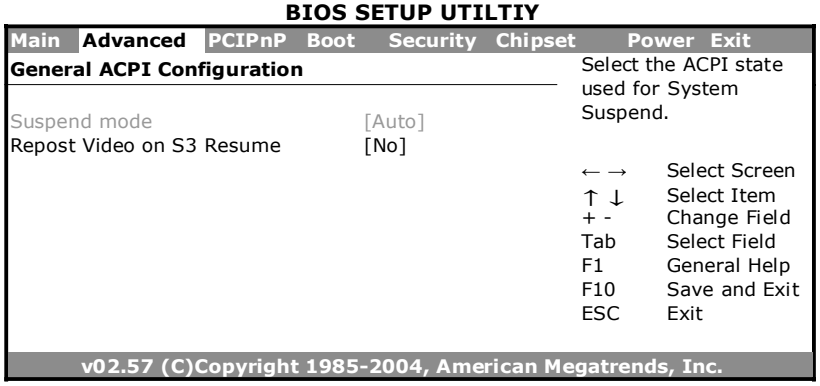
BIOS SETUP UTILTIY



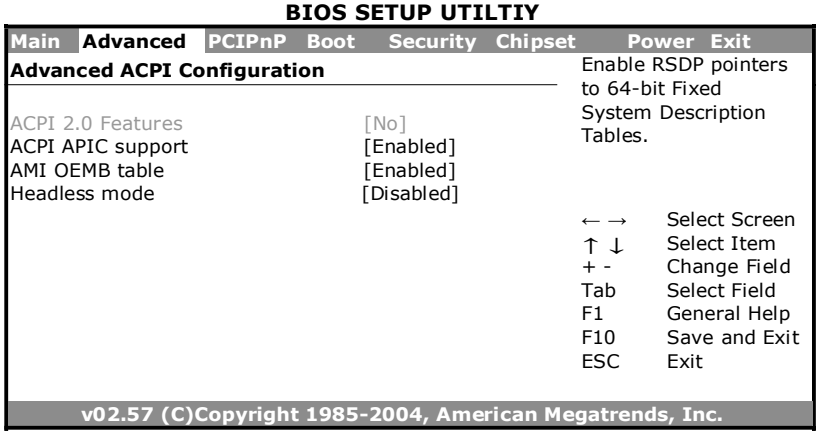
BIOS SETUP UTILTIY



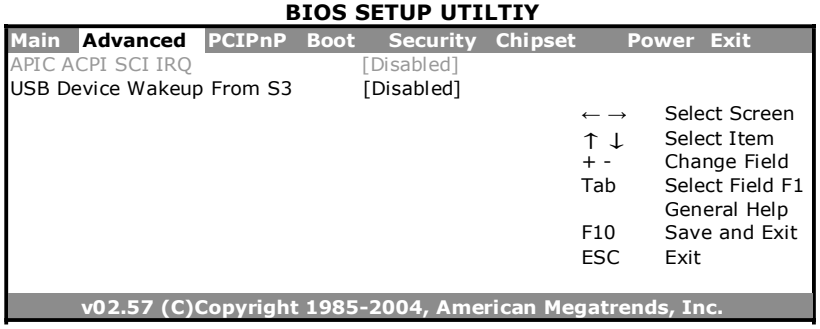
BIOS SETUP UTILTIY



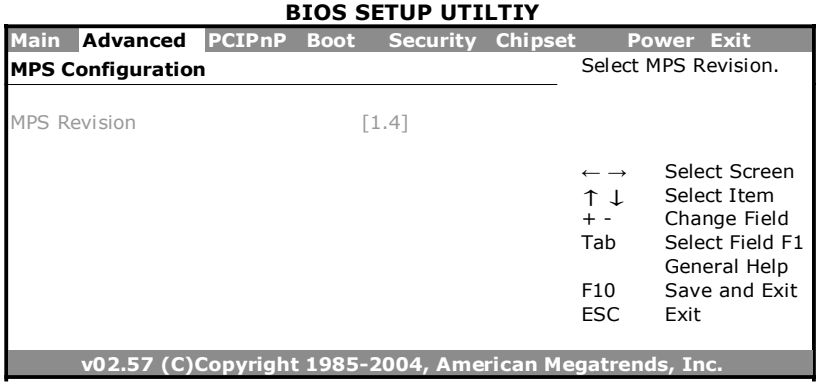
BIOS SETUP UTILTIY



BIOS SETUP UTILTIY



BIOS SETUP UTILTIY



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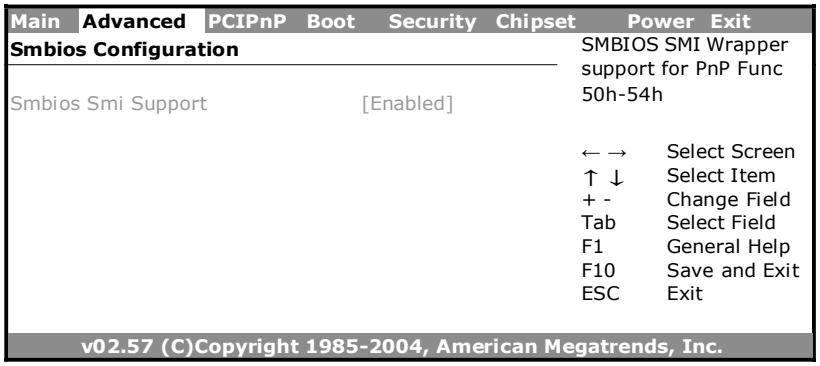
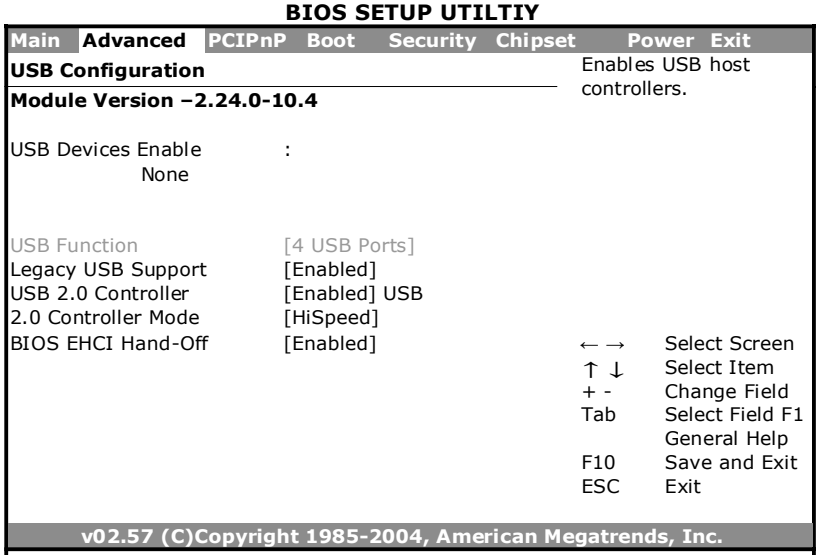


BIOS SETUP UTILTIY



4.4 Advanced PCI/PnP Settings

BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	Security	Chipset	Power	Exit

Advanced PCI/PnP Settings

WARNING: Setting wrong values in below sections may cause system to malfunction.

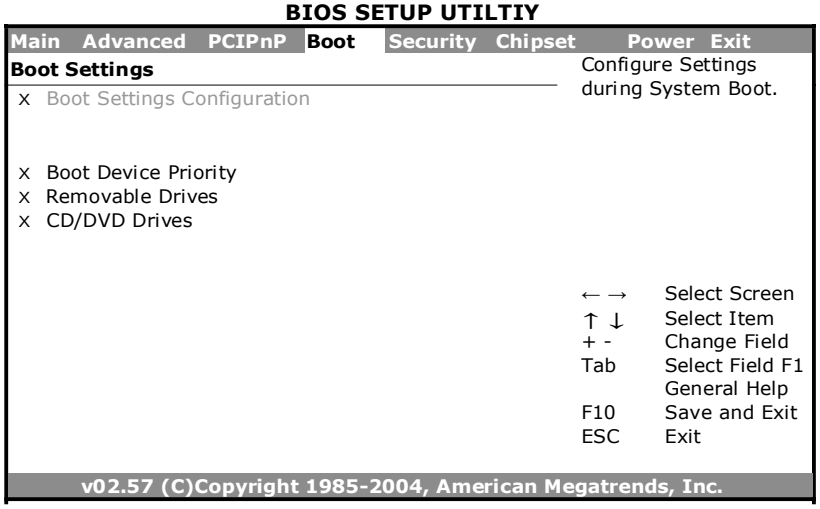
Clear NVRAM during System Boot.

Clear NVRAM	[No]
Plug & Play O/S	[No]
PCI Latency Timer	[64]
Allocate IRQ to PCI VGA	[Yes]
Palette Snooping	[Disabled]
PCI IDE BusMaster	[Enabled]
OffBoard PCI/ISA IDE Card	[Auto]
IRQ3	[Available]
IRQ4	[Available]
IRQ5	[Available]
IRQ7	[Available]
IRQ9	[Available]
IRQ10	[Available]
IRQ11	[Available]
IRQ14	[Available]
IRQ15	[Available]
DMA Channel 0	[Available]
DMA Channel 1	[Available]
DMA Channel 3	[Available]
DMA Channel 5	[Available]
DMA Channel 6	[Available]
DMA Channel 7	[Available]
Reserved Memory Size	[Disabled]

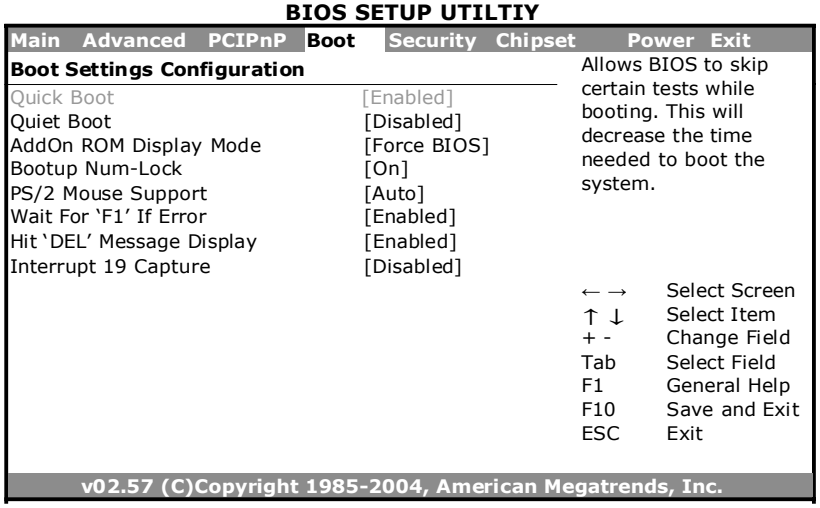
← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

4.5 Boot Settings

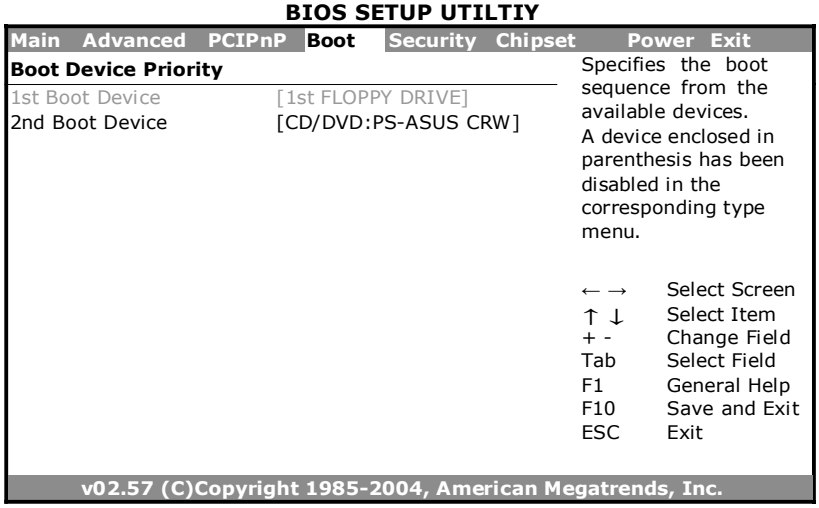
BIOS SETUP UTILTIY



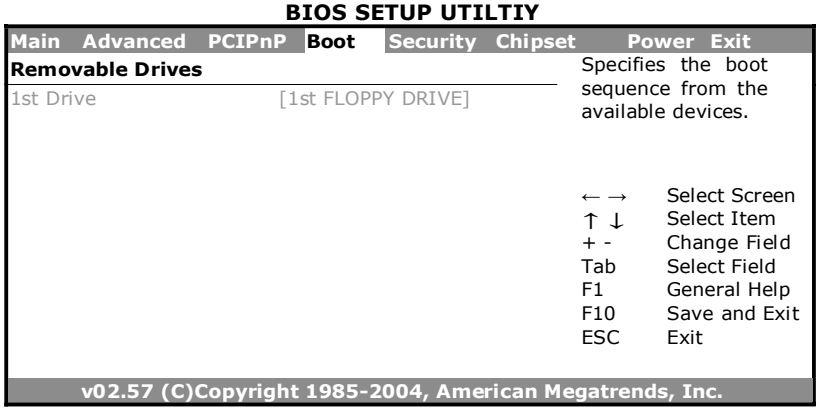
BIOS SETUP UTILTIY



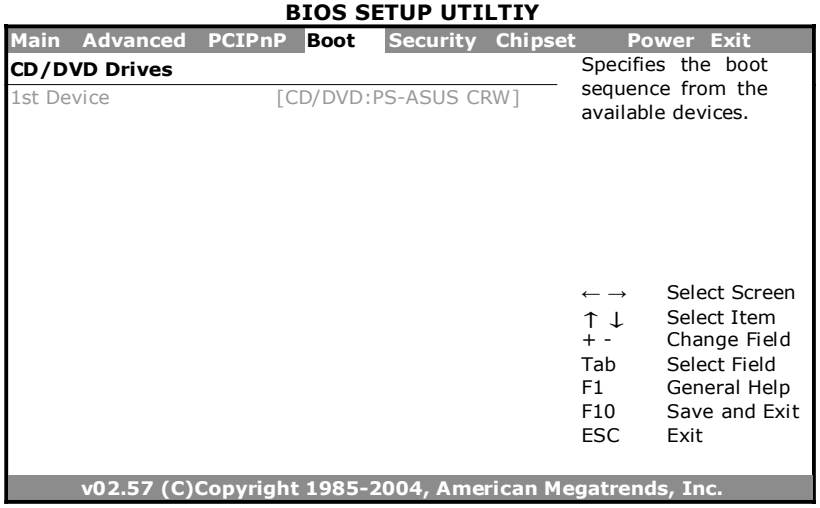
BIOS SETUP UTILTIY



BIOS SETUP UTILTIY



BIOS SETUP UTILTIY



4.6 Security Settings

BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	**Security**	Chipset	Power	Exit

Security Settings		Install or Change the password.
Supervisor Password	:Not Installed	
User Password	:Not Installed	
Change Supervisor Password		
Change User Password		
Boot Sector Virus Protection	[Disabled]	

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

4.7 Advanced Chipset Settings

BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	Security	Chipset	Power	Exit

Advanced Chipset Settings

WARNING: Setting wrong values in below sections may cause system to malfunction.

x NorthBridge Configuration
x SouthBridge Configuration

Options for NB

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

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BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	Security	Chipset	Power	Exit

DRAM Frequency	[Auto]
Configure DRAM Timing by SPD	[Enabled]
Memory Hole	[Disabled]
Init. Graphic Adapter Priority	[Internal VGA]
Internal Graphics Mode Select	[Enabled, 8MB]
Graphics Aperture Size	[64MB]
Boot Display Device	[CRT+LFP]
Flat Panel Type	[800x600LVDS]
TV Standard	[Auto]

Options

200Mhz
266Mhz
333Mhz
Auto

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

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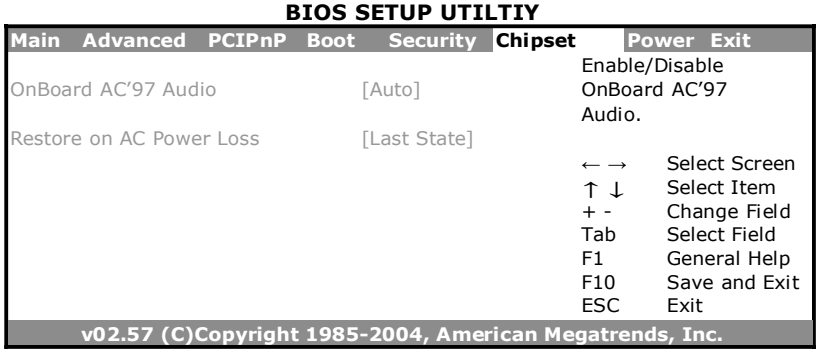
BIOS SETUP UTILTIY



4.8 APM Configuration

BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	Security	Chipset	**Power**	Exit

APM Configuration		
Power Management/APM	[Enabled]	Disable/Enable RTC to generate a wake event.
Video Power Down Mode	[Suspend]	
Hard Disk Power Down Mode	[Suspend]	
Standby Time Out	[Disabled]	
Suspend Time Out	[Disabled]	
Throttle Slow Clock Ratio	[50%]	
Keyboard & PS/2 Mouse	[Monitor]	
FDC/LPT/COM Ports	[Monitor]	
Primary master IDE	[Monitor]	← → Select Screen
Primary slave IDE	[Monitor]	↑ ↓ Select Item
Secondary master IDE	[Monitor]	+ - Change Field
Secondary slave IDE	[Monitor]	Tab Select Field
		F1 General Help
System Thermal	[Disabled]	F10 Save and Exit
		ESC Exit
Power Button Mode	[On/Off]	
Resume On Ring	[Disabled]	
Resume On LAN	[Disabled]	
Resume On PME#	[Disabled]	
Resume On RTC Alarm	[Disabled]	

4.9 Exit Options

BIOS SETUP UTILTIY

Main	Advanced	PCIPnP	Boot	Security	Chipset	Power	Exit

EXIT Options

Save Changes and Exit
Discard Changes and Exit
Discard Changes

Load Optimal Defaults
Load Failsafe Defaults

Exit system setup after saving the changes.
F10 key can be used for this operation.

← →	Select Screen
↑ ↓	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

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