

CTN-BB0135F

PC/104 标准工业主板

USER'Manual V1.0

用户手册

USER'Manual

声明

除列明随产品配件外，本手册包含的内容并不代表本公司的承诺，本公司保留对此手册更改的权利，且不另行通知。对于任何因安装、使用不当导致的直接、间接、有意或无意的损坏及隐患概不负责。

温馨提示

1. 产品使用前，务必仔细阅读产品说明书。
2. 对未准备安装的板卡，应将其保存在防静电保护袋中。
3. 在从包装袋中拿板卡前，应将手先置于接地金属物体上一会儿，以释放身体及手中的静电。
4. 在拿板卡时，需佩带静电保护手套，并且应该养成只触及边缘部份的习惯。
5. 主板与电源连接时，请确认电源电压。
6. 为避免人本被电击或产品被损坏，在每次对主板、板卡进行拔插或重新配置时，须先关闭交流电源或将交流电源线从电源插座中拔掉。
7. 在对板卡进行搬动前，先将交流电源线从电源插座中拔掉。
8. 当您需连接或拔除任何设备前，须确定所有的电源线事先已被拔掉。
9. 为避免频繁开关机对产品造成不必要的损伤，关机后，应至少等待 30 秒后再开机。
10. 设备在使用过程出现异常情况，请找专业人员处理。

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第一章 产品介绍

1.1 产品规格

尺寸

- 146mm (L)*102mm (W)

处理器

- Intel® Atom™ Processor D2550 1M Cache, 1.86 GHz

芯片组

- CPU: Intel D2550
- ICH: Intel NM10

显示

- CRT: 1X 标准 DB15, 显示支持最高 2048x1536(QXGA)
- LVDS: 1X20PIN 接口, 支持 24 位 LVDS 输出

系统内存

- 板载一个 DDR3 SODIMM, 最大支持 DDR3 1066MHZ 4GB 内存

存储

- 2 个标准 SATA2.0 接口
- 支持 2 个标准 MINI PCIE 接口, 其中 1 个配置 SIM 卡槽

LAN 功能

- 2xRealtek RT8111E 10/100/1000 base-T 网络
- 2 个标准 RJ45 接口

音频接口

- Realtek ALC662 芯片
- HDA5.1 输出, MIC IN

USB 接口

- 2 个 USB 2.0 接口
- 4 个 2x5 Header, 需要使用转接线转接到标准的 USB 接口

I/O 功能

- 采用 ITE IT8783F I/O 芯片
- 6 个串口, 1xRS232/RS422/RS485, 2xRS485, 3xRS232
- 1 个 2x4 Header 键盘鼠标接口

电源支持

- 12V 单电源输入

BIOS

- 16Mbit AMI EFI BIOS, 支持串口重定向

工作环境

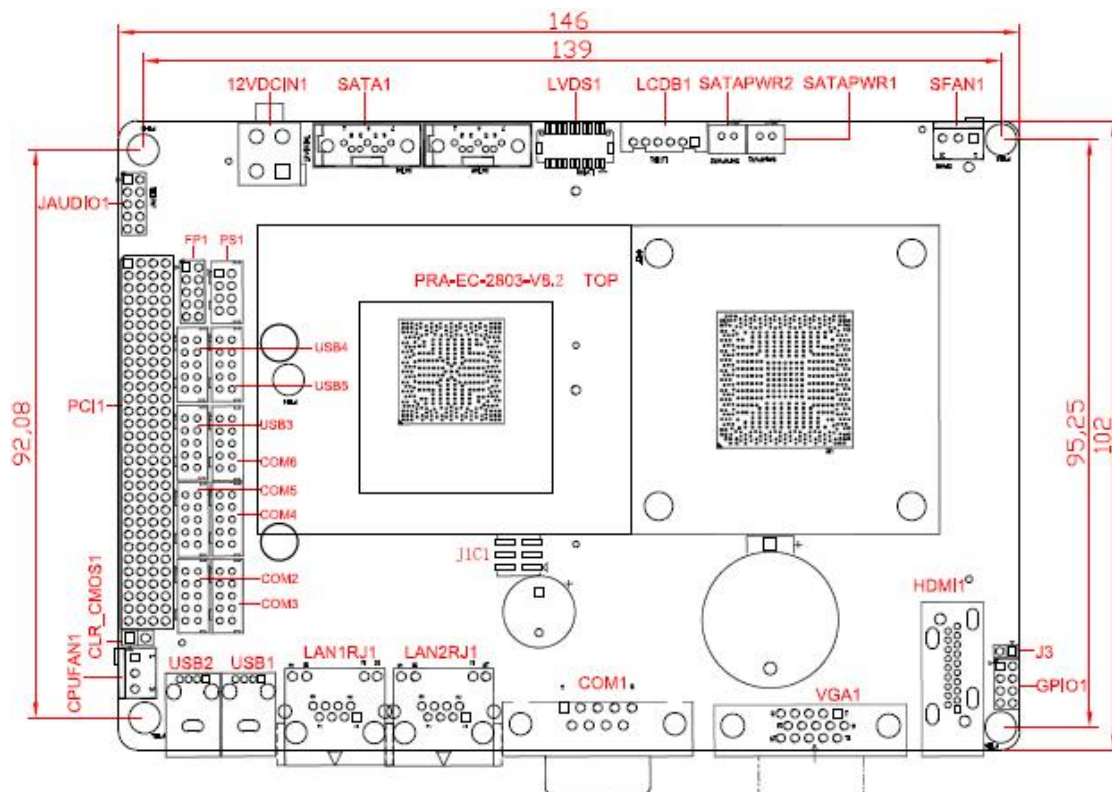
- 工作温度: -10°C~60°C
- 工作湿度: 0~95%

第二章 安装说明

2.1 接口位置和尺寸图

下图为 CTN-BB0135F 的接口位置和尺寸图。安装设备时，请对照此示意图并详细阅读下面的说明，安装组件过程中必须小心，对于有些部件，如果安装不正确，它将不能正常工作。

注意：操作时，请戴上防静电手套，因为静电有可能会损坏部件。



CTN-BB0135F 尺寸图

2.2 硬件安装

▲ 本主板关键元器件都是集成电路，而这些元件很容易因为遭受静电的影响而损坏。因此，请在正式安装主板之前，请先做好以下的准备：

1. 拿主板时手握板边，尽可能不触及元器件和插头插座的引脚。
2. 接触集成路元件（如 CPU、RAM 等）时，最好戴上防静电手环/手套。
3. 在集成电路元件未安装前，需将元件放在防静电垫或防静电袋内。
4. 在确认电源的开关处于断开位置后，再插上电源插头。

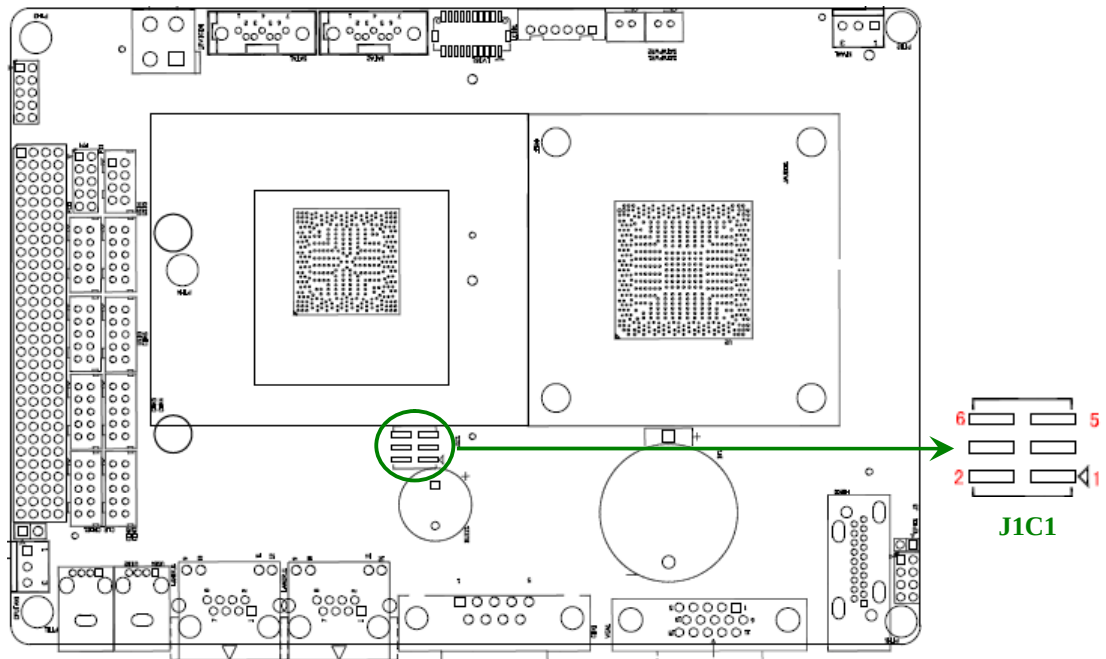
2.3 跳线功能设置

在进行硬件设备安装之前请按照您的需要对相应的跳线进行设置。

提示：如何识别跳线、接口的第 1 针脚，观察插头插座旁边的文字标记，会用“1”或加粗的线条或三角符号表示；看看背面的焊盘，方型焊盘为第 1 针脚；所有跳线的针脚 1 旁都有 1 个白色箭头。

2.3.1 COM1 跳线功能设置

J1C1 跳线用来设置 COM1 的传输模式，COM1 支持 RS232/RS422/RS485 三种传输模式，您可以根据您自身的需求来选择设置。



J1C1 管脚如下表所示：

管脚	信号名称	管脚	信号名称
1	COM1RS232_EN	2	+VCC5
3	SIN1_422	4	SIN1
5	SIN1_485	6	SIN1

J1C1 跳选说明：

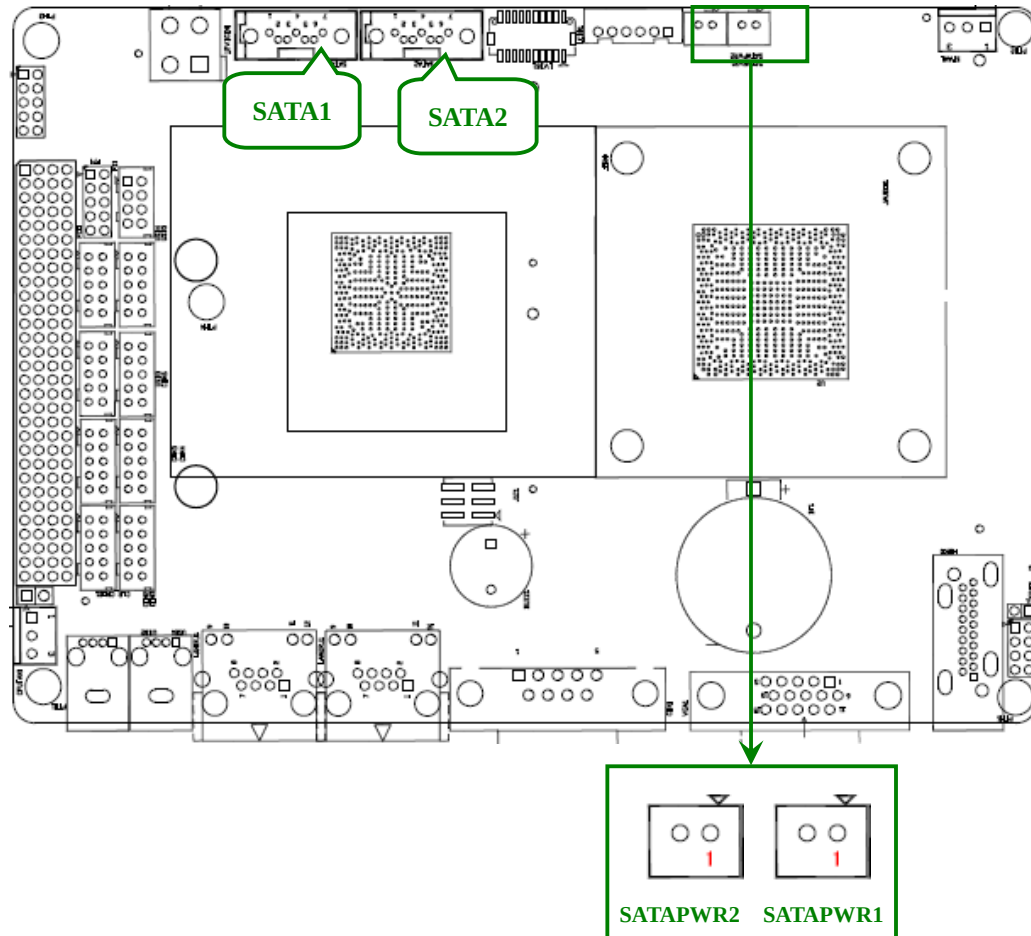
模式	RS232	RS422	RS485
跳选	1-2	2-5	5-6

2.4 接口说明

▲连接外部连接器时请先认真阅读本手册，以免对主板造成损坏！

2.4.1 SATA 接口

主板上提供 2 个标准 SATA 接口，可以连接 2 个 SATA 硬盘，如下图 SATA1、SATA2，使用时需可用 SATAPWR1 和 SATAPWR2 来为硬盘供电。

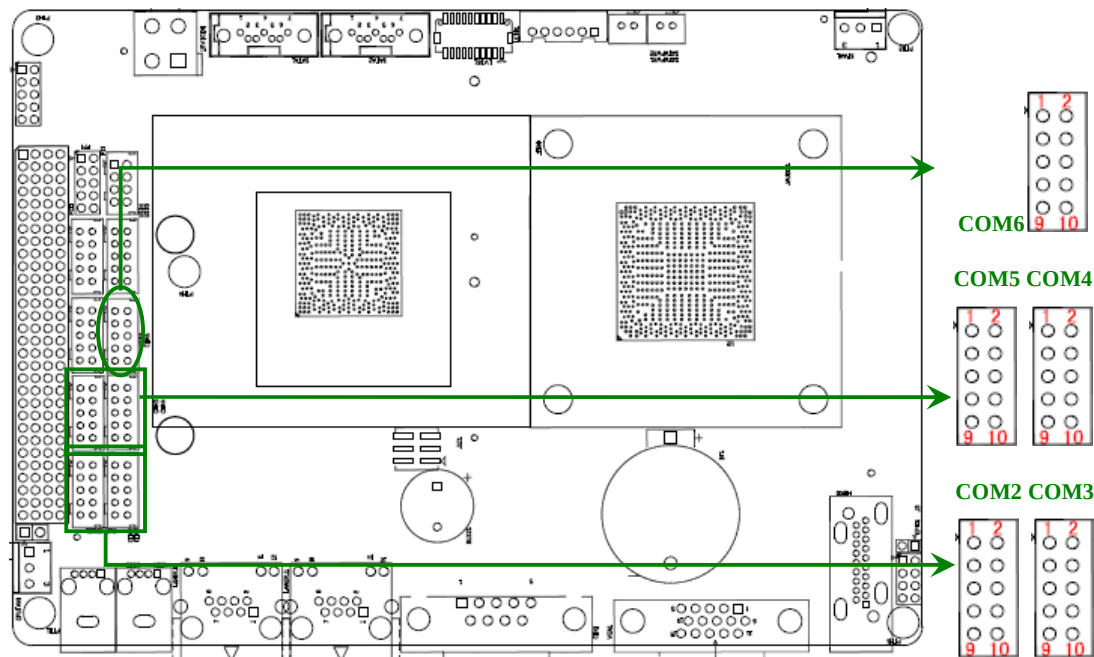


SATAPWR1, SATAPWR2 管脚如下表所示：

Pin	Pin Name
1	+VCC5
2	GND

2.4.2 串行接口（COM2/COM3/COM4/COM5/COM6）

本主板上提供 5 个 2x5Pin COM 接口，如下图 COM2、COM3、COM4、COM5、COM6，使用时需要用转换电缆转换为标准的 DB9 接口。



COM2 管脚如下表所示：

信号名称	管脚		信号名称
COMD2_N	1	2	COMD2_P
NC	3	4	DTR2_N
GND	5	6	DSR2_N
RTS2_N	7	8	CTS2_N
RI2_N	9	10	GND

COM3 管脚如下表所示：

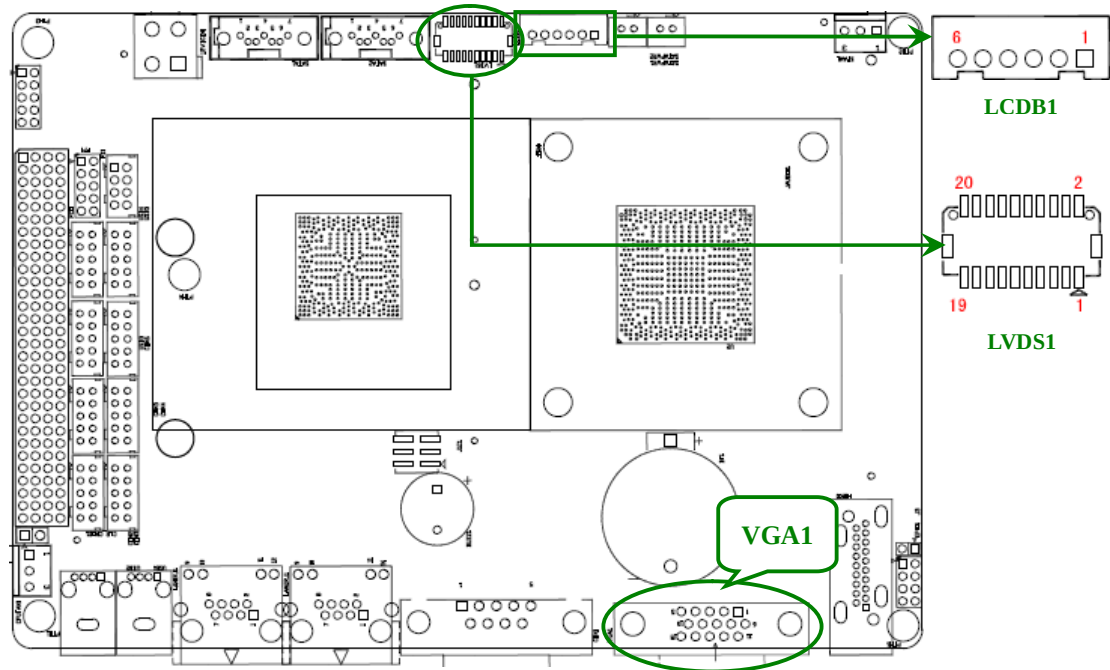
信号名称	管脚		信号名称
COMD3_N	1	2	COMD3_P
NC	3	4	DTR3_N
GND	5	6	DSR3_N
RTS3_N	7	8	CTS3_N
RI3_N	9	10	GND

COM4, COM5, COM6 管脚如下表所示：

信号名称	管脚		信号名称
DCD	1	2	SIN
SOUT	3	4	DTR
GND	5	6	DSR
RTS	7	8	CTS
RI	9	10	GND

2.4.3 显示接口（VGA1/LVDS1）

主板上有一个即插即用的标准 VGA 接口，如下图 VGA1；另外还提供一个 2*10Pin 的 LVDS 接口，如下图 LVDS1，使用时需要用 LCDB1 来供电。



LVDS1 管脚如下表所示：

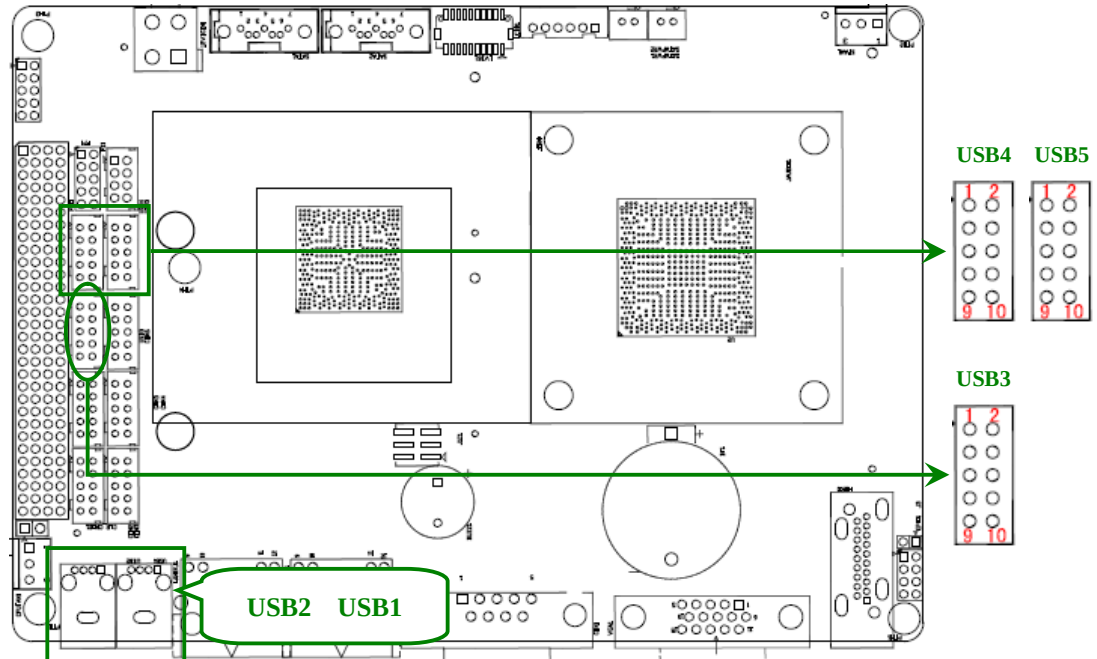
信号名称	管脚		信号名称
LVDS_TXN0	2	1	LVDS_TXP0
GND	4	3	GND
LVDS_TXN1	6	5	LVDS_TXP1
GND	8	7	GND
LVDS_TXN2	10	9	LVDS_TXP2
GND	12	11	GND
LVDS_CKN0	14	13	LVDS_CKP0
GND	16	15	GND
LVDS_TXN3	18	17	LVDS_TXP3
+VDD_LCD	20	19	+VDD_LCD

LCDB1 管脚如下表所示：

Pin	Pin Name
1	+VCC12
2	+VCC12
3	LVDS_BKLTEN
4	ADJ
5	GND
6	GND

2.4.4 USB 接口 (USB3/USB4/USB5)

板上提供了 2 个即插即用的标准 USB 接口，如下图 USB1、USB2；另外有 3 组 2*5Pin 插针 USB 接口，需要使用转换电缆将 USB 信号接到标准 USB 插座，如下图 USB3、USB4、USB5。

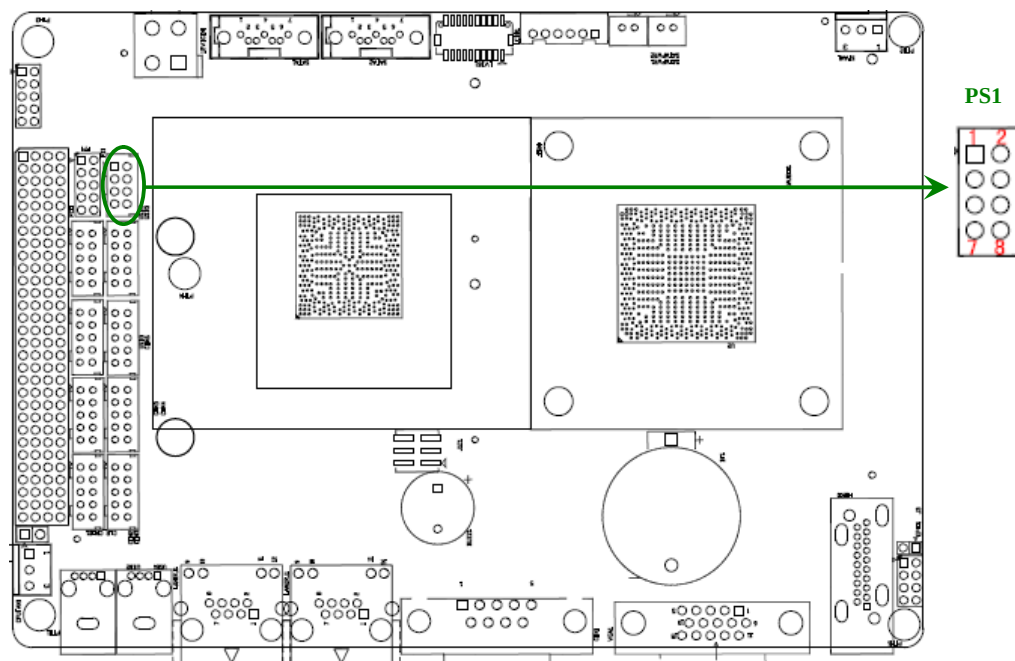


USB3,USB4,USB5 管脚如下表所示：

信号名称	管脚		信号名称
VCCUSB	1	2	VCCUSB
USBA_N	3	4	USBB_N
USBA_P	5	6	USBB_P
GND	7	8	GND
NC	9	10	GND

2.4.5 鼠标键盘接口 (PS1)

板上提供 1 个 2*4 Header 的鼠标键盘接口，如下图 PS1，需要通过 2*4Pin KB/MS Y 型转接线来连接鼠标键盘。

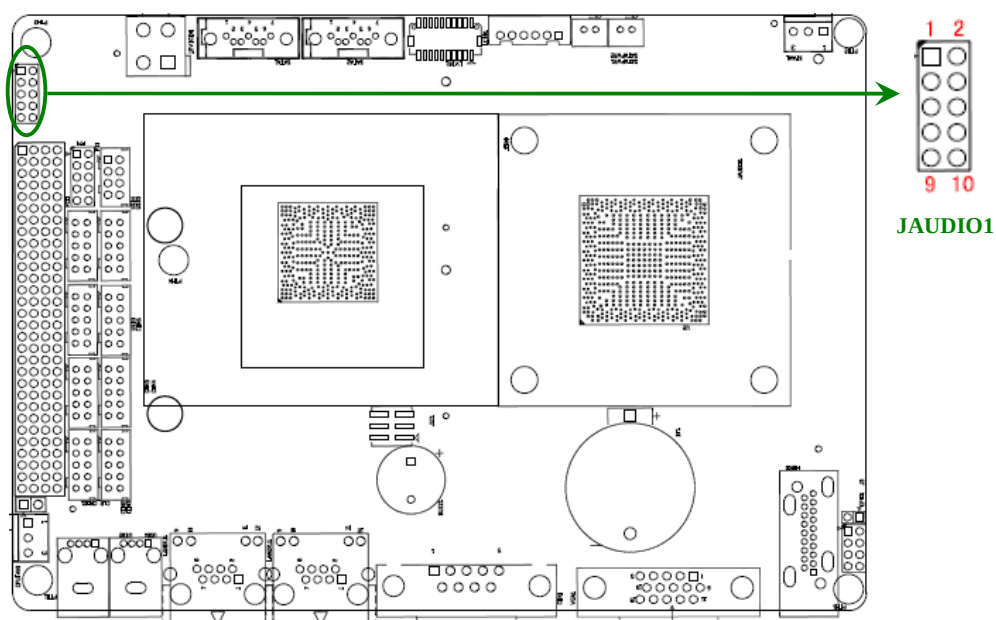


PS1 管脚如下表所示:

信号名称	管脚		信号名称
KB_DAT_	1	2	MS_DAT_
KB_CLK_	3	4	MS_CLK_
GND	5	6	GND
KM_VCC	7	8	KM_VCC

2.4.6 Audio 接口(JAUDI01)

主板上提供 1 个 2x5Pin 的音频插针, 如下图 JAUDI01。

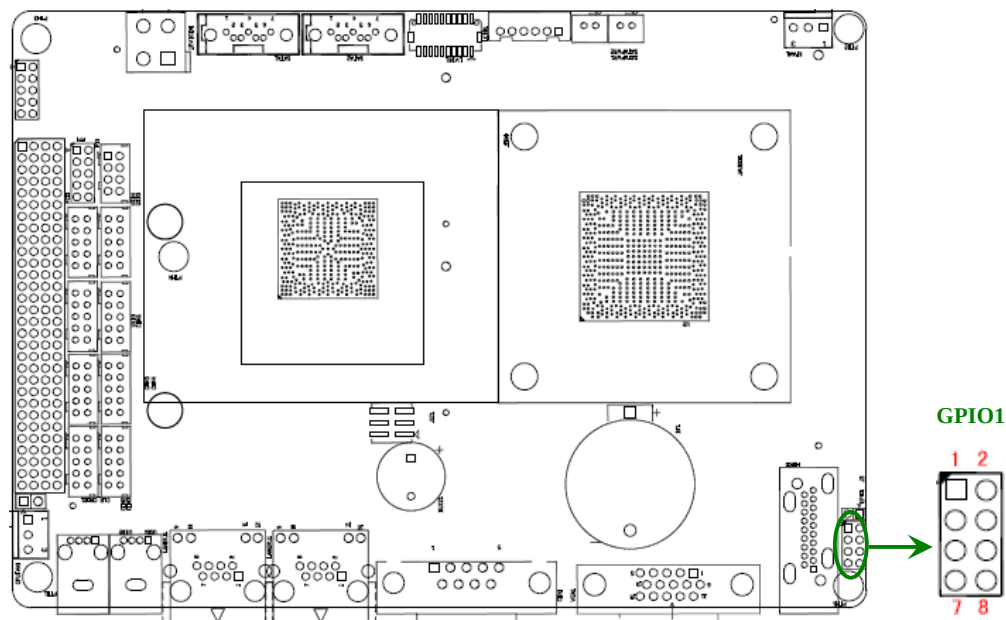


JAUDIOI01 接口管脚如下表所示:

信号名称	管脚		信号名称
FRONT_R_CN	1	2	FRONT_L_CN
MIC1_R_CN	3	4	MIC1_L_CN
SURR_R_CN	5	6	SURR_L_CN
A_GND	7	8	A_GND
CEN_CN	9	10	LFE_CN

2.4.7 GPIO 接口(GPIO1)

主板上提供 1 个 2x4Pin 的 GPIO 插针，如下图 GPIO1。

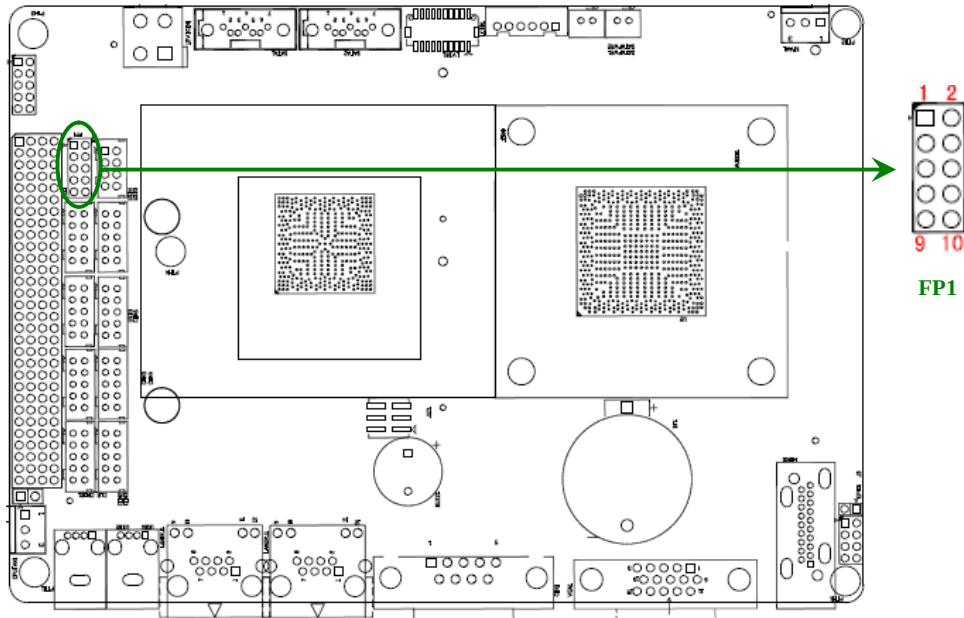


GPIO1 接口管脚如下表所示:

信号名称	管脚		信号名称
GP54_OUT	1	2	GP14_IN
GP55_OUT	3	4	GP15_IN
GP56_OUT	5	6	GP53_IN
GP57_OUT	7	8	GP50_IN

2.4.8 前面板接口(FP1)

FP1 用于连接至机箱前面板上所设的功能按钮和指示灯。



FP1 接口管脚如下表所示:

信号名称	管脚		信号名称
PWRLED	1	2	GND
VCC5	3	4	SATALED
GND	5	6	SYSRST_N
FP_PWRBTN_N	7	8	GND
AUTO_BUTTON_N	9	10	NC

第三章 BIOS 程序设置

AMI BIOS 刷新

BIOS 提供对硬件资源的底层驱动，是联系硬件和操作系统的桥梁。现在硬件和各种应用软件不断更新，当您的系统遇到问题时，例如系统不支持最新公布的 CPU 时，就需要升级您的 BIOS 了。

AFUDOS.EXE 是主板上装载 BIOS 资料的 FLASHIC 的读写程序，须要在 DOS 环境下操作。

请用一张系统启动盘启动系统进入纯 DOS 环境，然后使用 AFUDOS.EXE 程序把您用来升级的 BIOS 资为（例如是 XXXX.ROM）写入到 FLASHIC 里。

具体操作指令为：

A:\Afudos XXXX.rom

如果您需要在指令后面加其他参数，请在上述指令后加：空格 / ?

例如：Afudos 6872T0000.rom/P/B/C/N/X

注意：

- 1、升级 BIOS 只在遇到问题，必要的时候进行。
- 2、升级 BIOS 请使用我们驱动光盘内所附的 BIOS 读写程序，或者在相关网站下载更新版本的程序。
- 3、在升级过程中不要关闭电源或重新启动系统，这亲您的 BIOS 资料将被损坏，系统也可能不能启动。
- 4、为防止意外发生，请您先备份当前的 BIOS 资料。

AMI BIOS 描述

开机时，BIOS 会对主板上的硬件进行自我诊断，设定硬件时序参数等工作，最后才将系统控制权交给操作系统。BIOS 是硬件和软件的沟通桥梁，如何正确的设定 BIOS 参数对系统是否稳定的工作及系统是否工作在最佳状态至关重要。

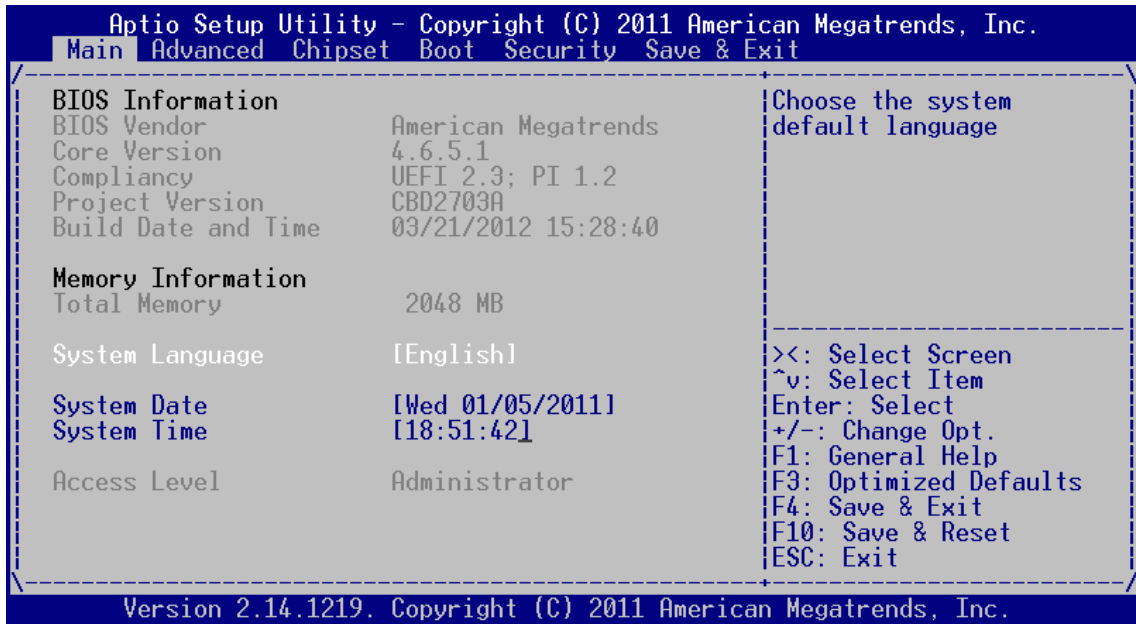
进入 BIOS 参数设置：

电脑开机，在完成自我诊断后，屏幕上会显示出如下信息：Del ->SETUP，此时您点击一下 Del 键，则 BIOS 在完成 IDE 等设备的侦测后会自动转入 SETUP 设置画面。

1. 打开系统电源或重新启动系统，显示器屏幕将出现自我测试的信息；
2. 当屏幕中间出 G 现 “Pressto enter setup” 提示时，按下键，就可以进入 BIOS 设定程序；
3. 以方向键移动至你要修改的选项，按下<Enter>键即可进入该选项的子画面；
4. 使用方向键及<Enter>键即可修改所选项目的值，按回车键选择 BIOS 选项并修改；
5. 任何时候按下<Esc>键即可回到上一画面。

3.1 Main Screen

The Main screen is the first screen that is displayed when the BIOS Setup is entered.

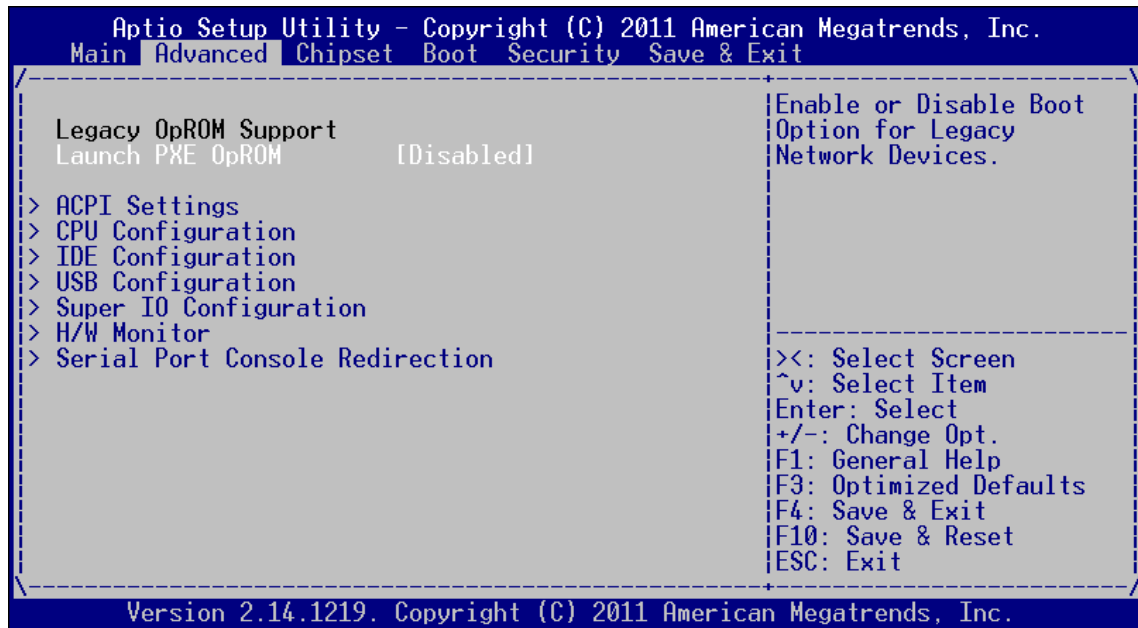


Setup Item	Options	Help Text	Comments
BIOS Information			
BIOS Vendor			Displays BIOS vendor
Core Version			Displays the core version.
BIOS Version			Displays the current BIOS version: Format: AAAAABBC:D425003A AAAAA = Project name BB = BIOS revision C = Customer number
Build Date			Displays the current BIOS build date.
Memory Information			
Total Memory			Displays the total physical memory installed in the system, in MB.
System Language	English	Choose the system default language	
System Date	[Day of week MM/DD/YYYY]	Set and display the Date..	
System Time	[HH:MM:SS]	Set and display the Time.	

Setup Item	Options	Help Text	Comments
Access Level			Displays password level that setup is running in: Administrator or User. With no passwords set, Administrator is the default mode.

3.2 Advanced Screen

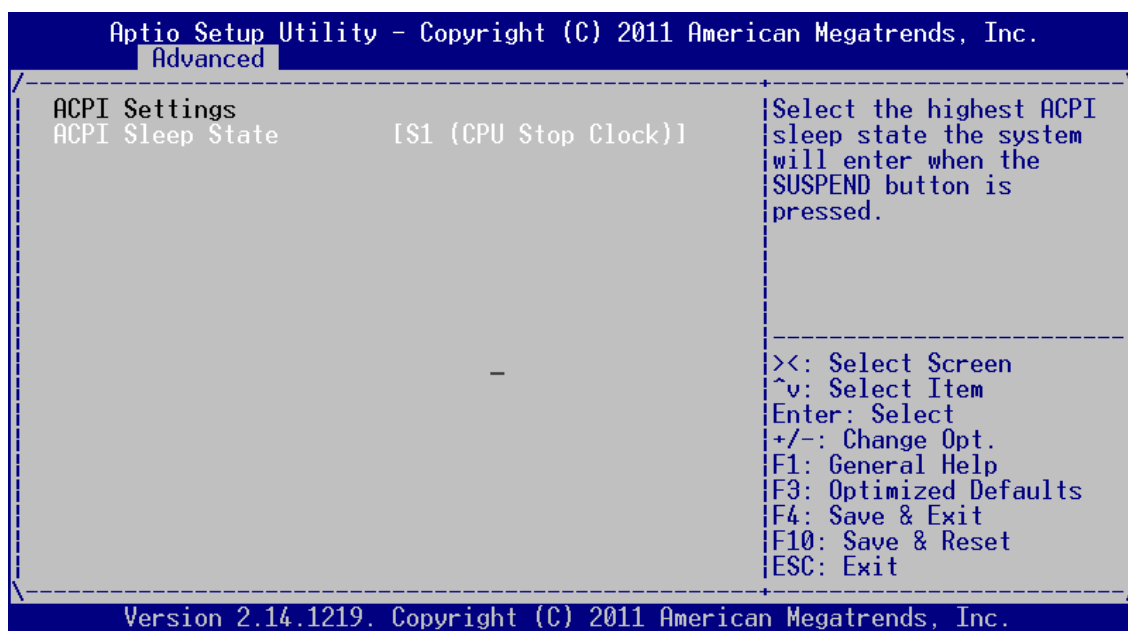
The Advanced screen provides an access point to configure several options. On this screen, the user selects the option that is to be configured.



Setup Item	Options	Help Text	Comments
Launch PXE OpROM	Disabled Enabled	Enable or Disable Boot Option for Legacy Network Devices	
ACPI Settings		System ACPI Parameters.	
CPU Configuration		CPU Configuration Parameters	
IDE Configuration		IDE Devices Configuration	
USB Configuration		USB Configuration Parameters	
Super IO Configuration		System Super IO Chip Parameters.	
Hardware Monitor		Monitor hardware status	
Serial Port Console Redirection		Serial Port Console Redirection	

3.2.1 ACPI Settings Screen

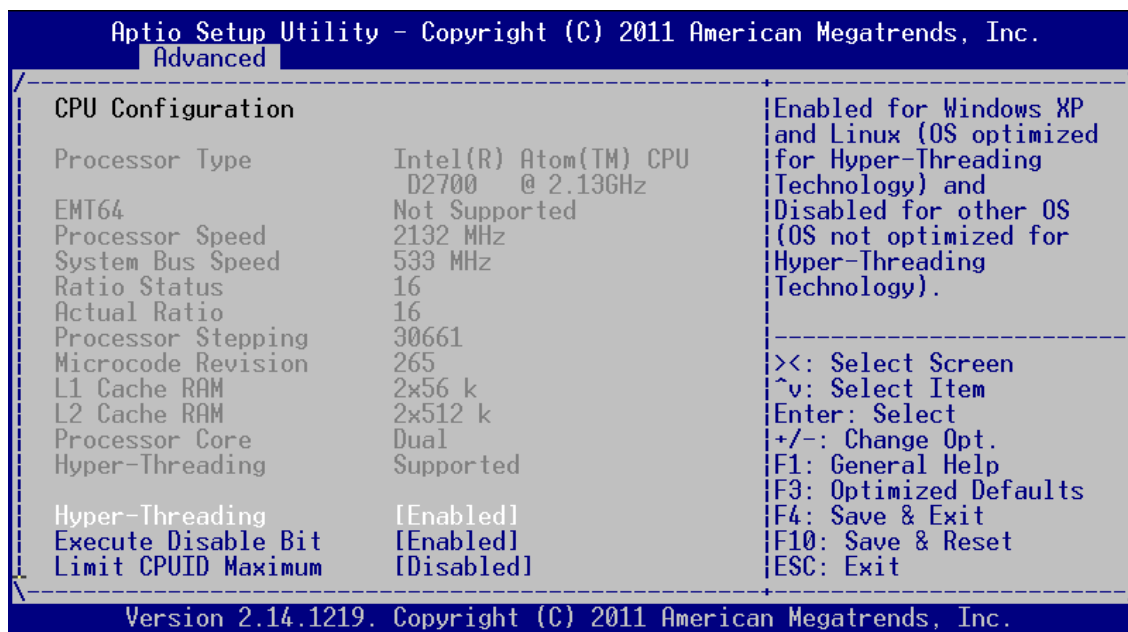
The ACPI Settings screen allows the user to set the system ACPI parameters.
To access this screen from the Main screen, choose **Advanced > ACPI Settings**.



Setup Item	Options	Help Text	Comments
ACPI Sleep State	Suspend Disabled S1 (CPU Stop Clock)	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.	

3.2.2 CPU Configuration Screen

The CPU Configuration screen allows the user to view the processor information, and to enable or disable processor options. To access this screen from the Main screen, choose **Advanced > CPU Configuration**.

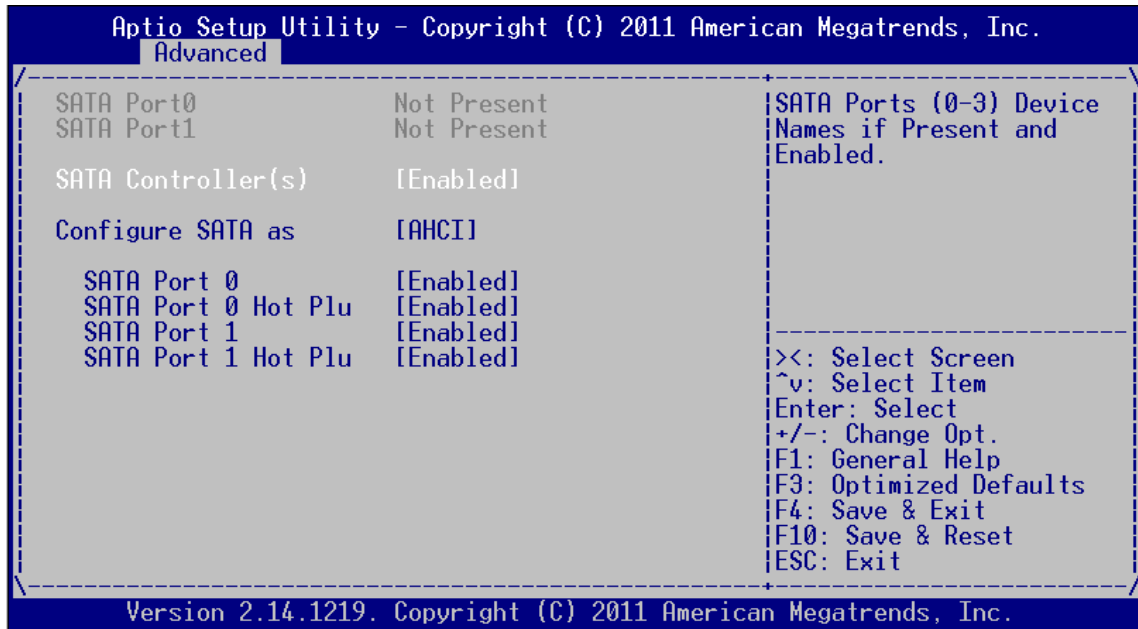


Setup Item	Options	Help Text	Comments
CPU Configuration			
Processor Type			Current frequency of the processor.
EM64T			If Current processor supports EM64T it shows supported.
Processor Speed			Current frequency of the processor.
Sytem Bus Speed			Current sytem bus speed
Ratio Status			Ratio Status
Actual Ratio			Current ratio
Processor Stepping			Current stepping of the processor.
Microcode Revision			Revision of the loaded microcode.
L1 Cache RAM			L1 Cache RAM
L2 Cache RAM			L2 Cache RAM
Processor Cores			Number of the Processor cores.
Hyper-Threading			If Current processor supports Intel HT Technology it shows supported.
Hype-threading	Disabled Enabled	Enabled for HT Supported OS (OS optimized for Hyper-Threading Technology) and Disabled for non-HT Supported OS (OS not optimized for Hyper-Threading Technology). There is only one thread per enabled core when Disabled.	
Execute Disable Bit	Disabled Enabled	XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS.	
Limit CPUID Maximum	Disabled Enabled	Disabled for Windows XP	

3.2.3 IDE Configuration Screen

The SATA Configuration screen allows the user to configure the SATA controller.

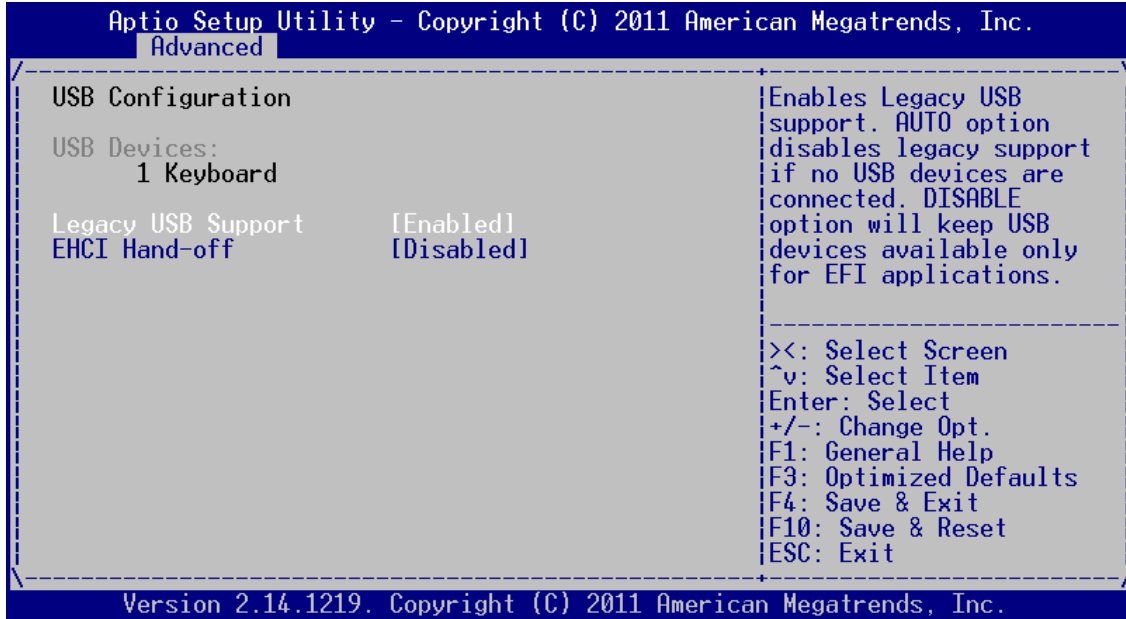
To access this screen from the Main menu, choose **Advanced > SATA Configuration**.



Setup Item	Options	Help Text	Comments
SATA Configuration			
SATA Port 0	Not Present /<Drive Info.>		If HDD present on the port, show HDD information. NOTE: Port number supported is SKU specific.
SATA Port 1	Not Present /<Drive Info.>		
SATA Controller(S)	Enable Disable	SATA Ports (0-3) Device Names if Present and Enabled.	
Configure SATA AS	IDE AHCI		Select a configuration for SATA Controller
SATA Port 0	Enable Disable	Enable or Disable SATA Port.	
SATA Port 0 Hot Plug	Enable Disable	Designates this port as Hot Pluggable.	
SATA Port 1	Enable Disable	Enable or Disable SATA Port.	
SATA Port 1 Hot Plug	Enable Disable	Designates this port as Hot Pluggable.	

3.2.4 USB Configuration Screen

The USB Configuration screen allows the user to configure the USB controller options.
To access this screen from the Main screen, choose **Advanced** > **USB Configuration**.

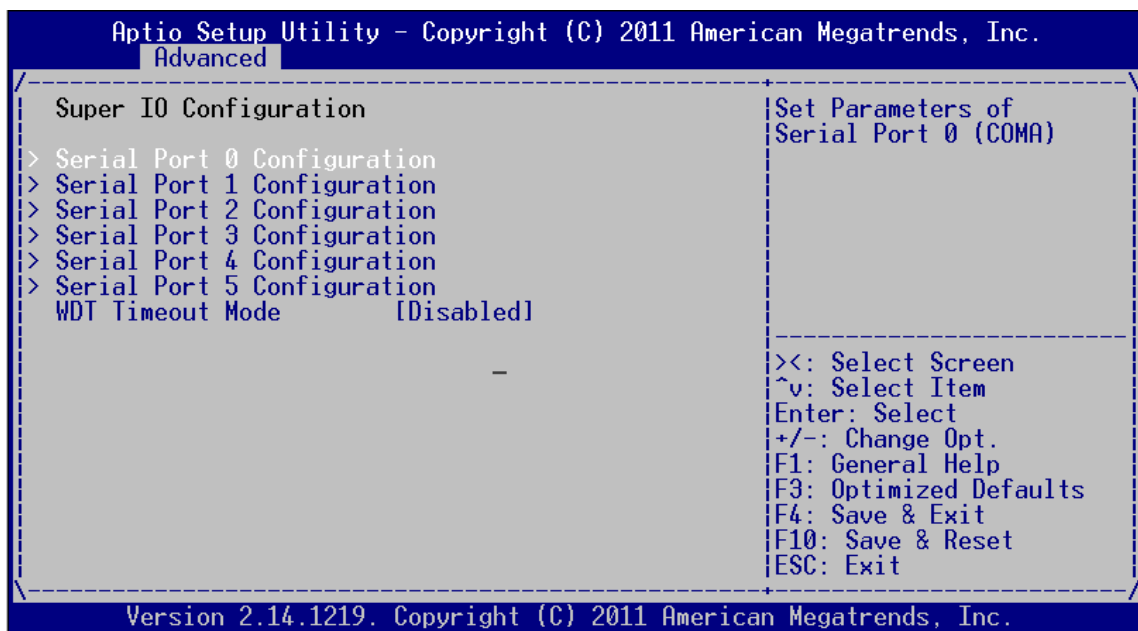


Setup Item	Options	Help Text	Comments
USB Configuration			
USB Devices:			List USB devices in the system currently.
Legacy USB Support	Enabled Disabled Auto	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.	
EHCI Hand-off	Enabled Disabled	This is a workaround for Oses without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver	
<USB Mass Device Name>	Auto Floppy Forced FDD Hard Disk CD-ROM	Mass storage device emulation type. 'AUTO' enumerates devices according to their media format. Optical drives are emulated as 'CDROM', drives with no media will be emulated according to a drive type.	'AUTO' enumerates devices less than 530MB as floppies.

3.2.5 Super IO Configuration Screen

The Super IO Configuration screen allows the user to configure the Serial Port .

To access this screen from the Main screen, choose **Advanced** > **Super IO Configuration**.



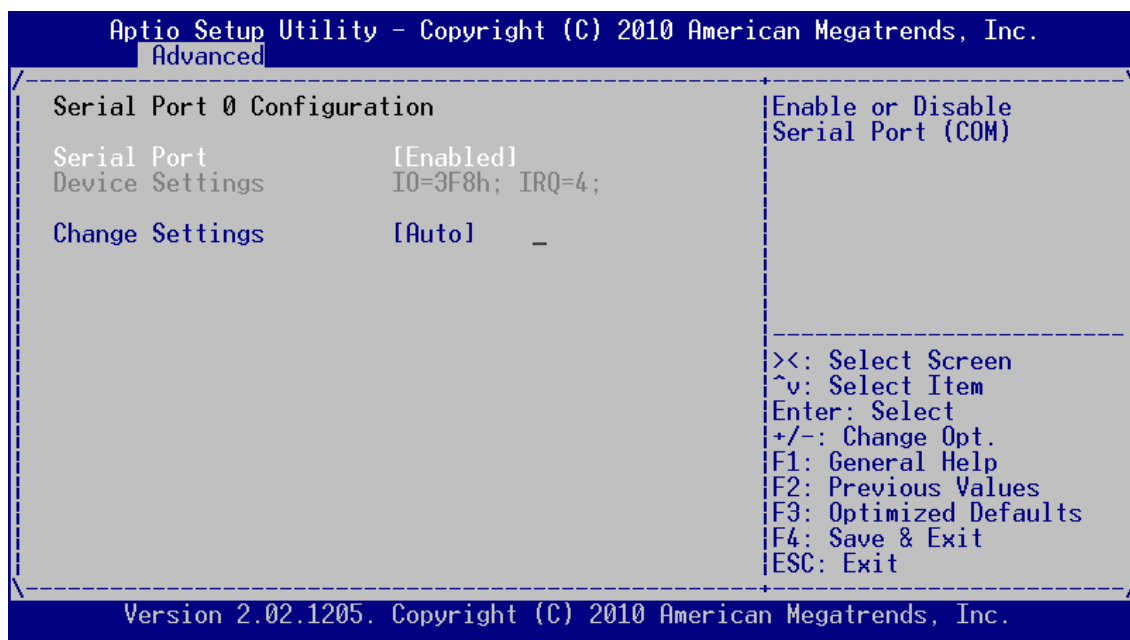
Setup Item	Options	Help Text	Comments
Super IO Configuration			
Serial Port 0 Configuration		Set Parameters of Serial Port 0 (COMA)	
Serial Port 1 Configuration		Set Parameters of Serial Port 1 (COMB)	
Serial Port 2 Configuration		Set Parameters of Serial Port 1 (COMC)	
Serial Port 3 Configuration		Set Parameters of Serial Port 1 (COMD)	
Serial Port 4 Configuration		Set Parameters of Serial Port 1 (COME)	
Serial Port 5 Configuration		Set Parameters of Serial Port 1 (COMF)	

Setup Item	Options	Help Text	Comments
WDT Timeout Mode	Disabled Minute Second	WDT Timeout Mode Select: Minute or Second	Warning: When watchdog timeout occurred, SIO will reset system. If Minute or Second selected, Watchdog timeout was always enabled, unless disabled by other operation or resetting in Setup Utility.

3.2.6 Serial Port 0 Configuration Screen

The Serial Port 0 Configuration Screen allows the user to configure the Serial Port 0 (COMA).

To access this screen from the Main screen, choose **Advanced** > **Super IO Configuration**> **Serial Port 0 Configuration**.



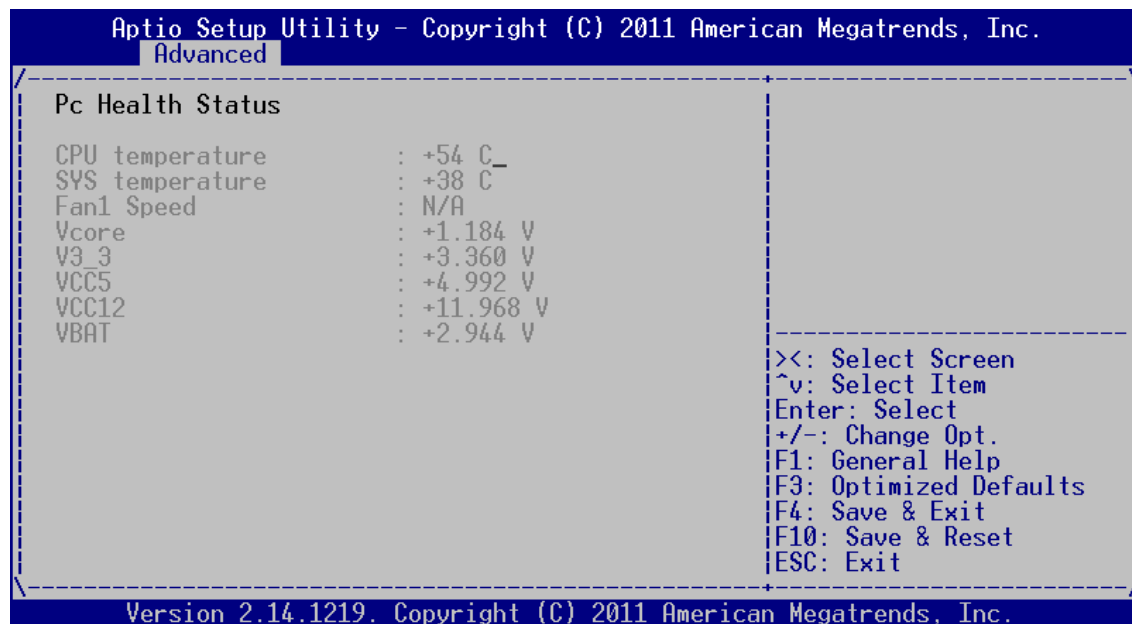
Setup Item	Options	Help Text	Comments
Serial Port 0 Configuration			
Serial Port	Disabled Enabled	Enable or Disable Serial Port(COM)	
Device Settings			Shows Current IO and IRQ settings.

Setup Item	Options	Help Text	Comments
Change Settings	Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,10,11,12;	Select an optimal settings for Super IO Device	

Serial Port 1/2/3/4/5 Configuration Screen same as Serial Port 0 Configuration

3.2.7 Hardware Monitor

The Hardware Monitor screen shows the PC health status include temperature, fan speed, and voltage. To access this screen from the Main screen, choose **Advanced** > **H/W Monitor**.



Setup Item	Options	Help Text	Comments
PC Health Status			
CPU temperature			Shows Current CPU temperature.

Setup Item	Options	Help Text	Comments
SYS temperature			Shows Current System temperature.
Vcore			Information only.
V3_3			
VCC5			
+5.0V			
VCC12			
VBAT			

3.2.8 Serial Port Console Redirection

The Console Redirection screen allows the user to enable or disable console redirection and to configure the connection options for this feature.

To access this screen from the Main screen, choose **Advanced** > **Serial Port Console Redirection**.



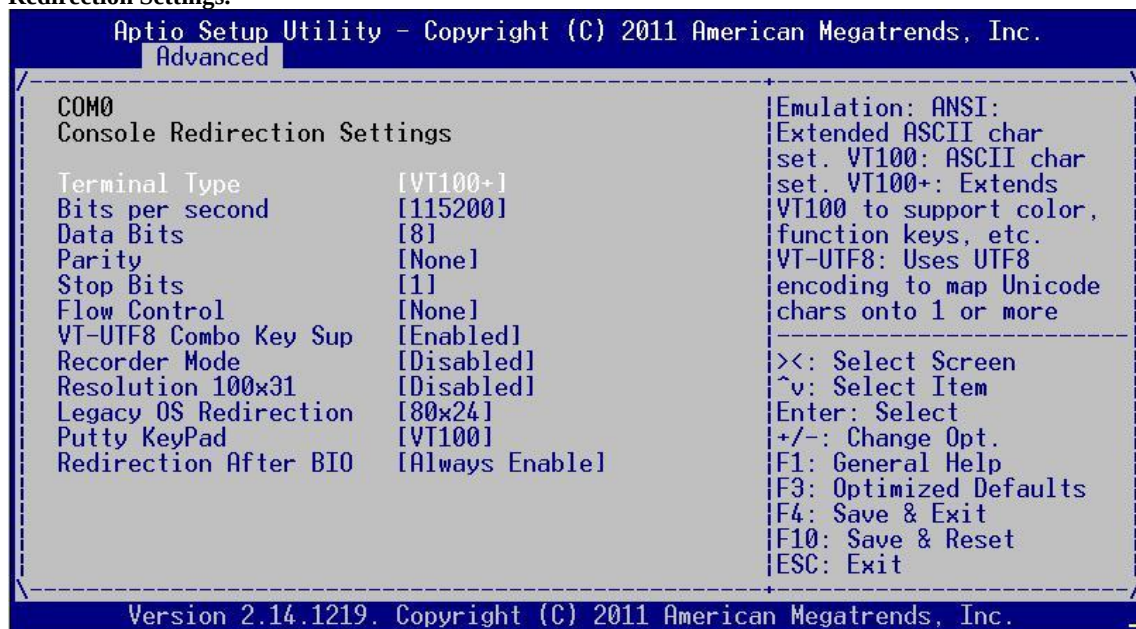
Setup Item	Options	Help Text	Comments
COM0			

Setup Item	Options	Help Text	Comments
Console Redirection	Disabled Enabled	Console Redirection Enable or Disable.	
Console Redirection Setting		The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.	
COM1			
Console Redirection	Disabled Enabled	Console Redirection Enable or Disable.	
Console Redirection Setting		The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.	

3.2.9 Console Redirection Settings

The Console Redirection Setting screen allows the user to configure the Console Redirection.

To access this screen from the Main screen, choose **Advanced > Serial Port Console Redirection> Console Redirection Settings**.

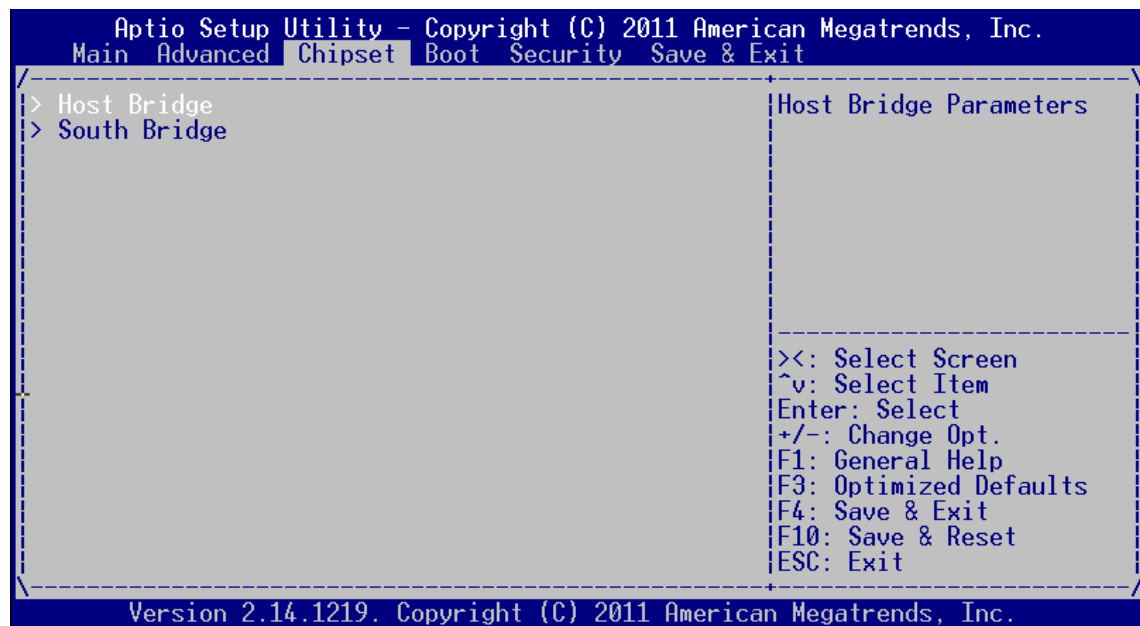


Setup Item	Options	Help Text	Comments
COM0			
Console Redirection Settings			
Terminal Type	VT100 VT100+ VT-UTF8 ANSI	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.	
Bits Per second	9600 19200 57600 115200	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.	
Data bits	8 7	Data Bits	
Parity	None/ Even Odd Mark Space	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as an additional data bit.	
Stop Bit	1 2	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.	
Flow Control	None Hardware RTS/CTS	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.	
VT-UTF8 Combo Key Support	Disabled Enabled	Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals	
Recorder Mode	Disabled Enabled	With this mode enabled only text will be sent. This is to capture Terminal data	
Resolution 100×31	Disabled Enabled	Enables or disables extended terminal resolution	
Legacy OS Redirection Resolution	80x24 80x25	On Legacy OS, the Number of Rows and Columns supported redirection	
Putty KeyPad	VT100 LINUX XTERMR6 SCO	Select FunctionKey and KeyPad on Putty	

Setup Item	Options	Help Text	Comments
	ESCN VT400		
Redirection After BIOS POST	Always Enable BootLoader	The Settings specify if BootLoader is selected than Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legaacy console Redirection is enabled for Legacy OS.	

3.3 Chipset Screen

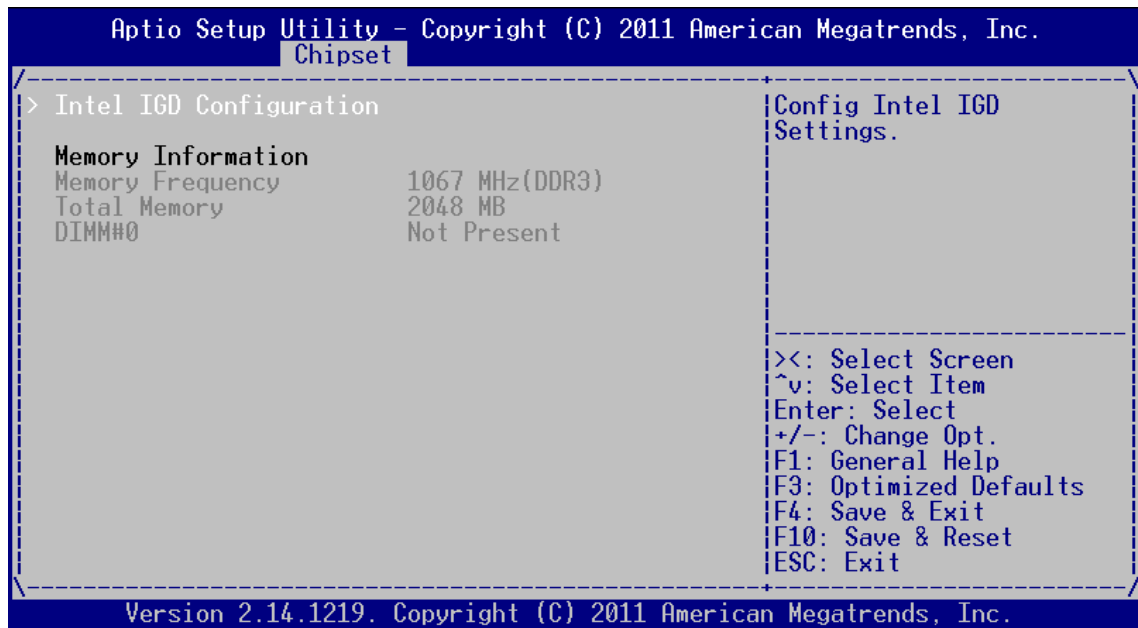
The Chipset screen provides an access point to configure North Bridge and South Bridge.
To access this screen from the Main screen, press the right arrow until the **Chipset** screen is chosen.



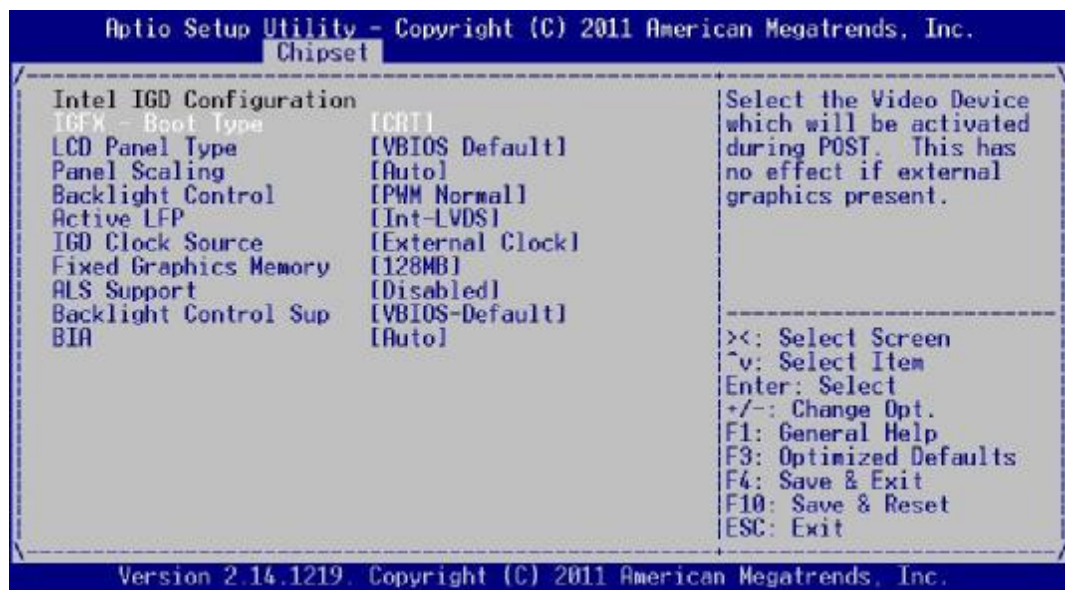
Setup Item	Options	Help Text	Comments
Host Bridge		Host Bridge parameters	
South Bridge		South Bridge parameters	

3.3.1 Host Bridge Screen

The North Bridge screen allows the user to view details about the system memory DDR-3 DIMMs that are installed. To access this screen from the Main screen, choose **Chipset** > **North Bridge**.



Setup Item	Options	Help Text	Comments
Intel IGD Configuration		Config Intel IGD Settings	
Memory Information			
Memory Frequency			Memory frequency
Total Memory			Shows total memory in the System
DIMM#0			Shows Memory populating status. Slot number supported is SKU specific.
DIMM#1			



Setup Item	Options	Help Text	Comments
Intel IGD Configuration		Config Intel IGD Settings	

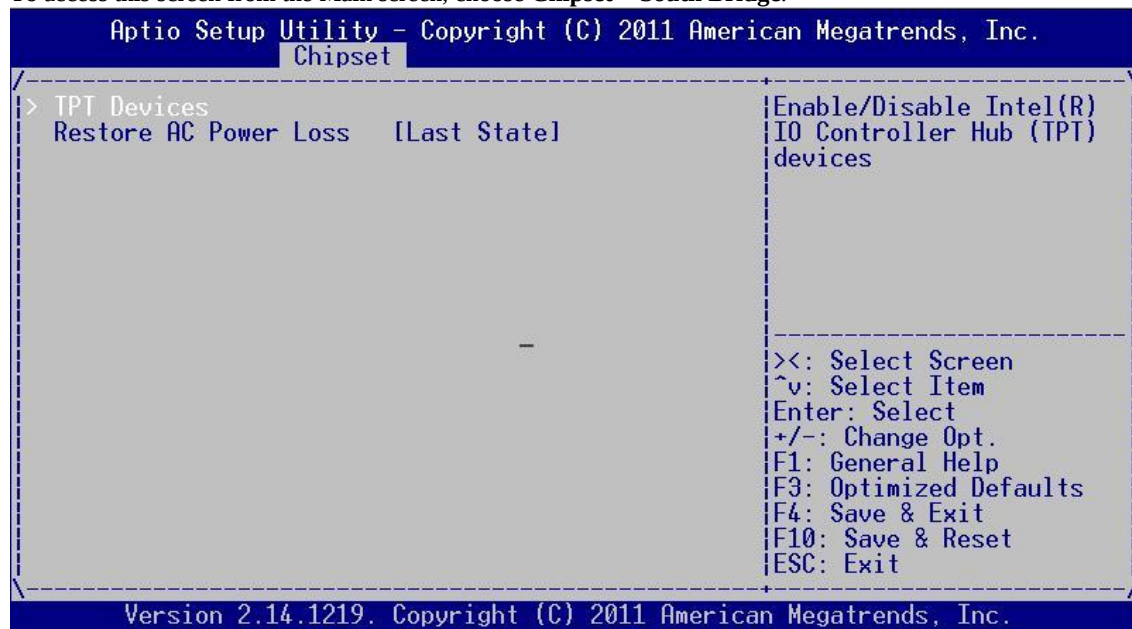
Setup Item	Options	Help Text	Comments
Intel IGD Configuration		Config Intel IGD Settings	
IGFX - Boot Type	VBIOS Default CRT LVDS HDMI CRT + LVDS CRT + HDMI LVDS + HDMI	Select the Video Device which will be activated during POST. This has no effect if external graphics present.	
LCD Panel Type	VBIOS Default "640x480 LVDS" "800x600 LVDS" "1024x768 LVDS" "1280x1024 LVDS" "1366x768 LVDS" "1280x800 LVDS" "1224x600 LVDS"	Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item.	
Panel Scaling	Auto Force Scaling Off Maintain Aspect Ratio	Select the LCD panel scaling option used by the Internal Graphics Device.	
Backlight Control	PWM Inverted GMBus Inverted PWM Normal GMBus Normal	Back Light Control Setting	
Active LFP	No LVDS Int-LVDS SDVO LVDS	Select the Active LFP Configuration. No LVDS: VBIOS does not enable LVDS. Int-LVDS: VBIOS enables LVDS driver by Integrated encoder. SDVO LVDS: VBIOS enables LVDS driver by SDVO encoder. eDP Port-A: LFP Driven by Int-DisplayPort encoder from Port-A. eDP Port-D: LFP Driven by Int-DisplayPort encoder from Port-D(through PCH)	
IGD Clock Source	External Clock Internal Clock	IGD clock selection	
Fixed Graphics Memory Size	128MB 256MB	Configure Fixed Graphics Memory Size	

Setup Item	Options	Help Text	Comments
Intel IGD Configuration		Config Intel IGD Settings	
ALS Support	Disabled Enabled	Valid only for ACPI.\n\nLegacy = ALS Support through the IGD INT10 function.\n\nACPI = ALS support through an ACPI ALS driver	
Backlight Control Support	VBIOS-Default BLC Enabled BLC&BIA Disabled	Backlight Control Configuration	
BIA	Auto Disabled Level 1 Level 2 Level 3 Level 4 Level 5	>>Auto: GMCH Use VBT Default; >>Level n: Enabled with Selected Aggressiveness Level." // IGD CRI Clock Select	

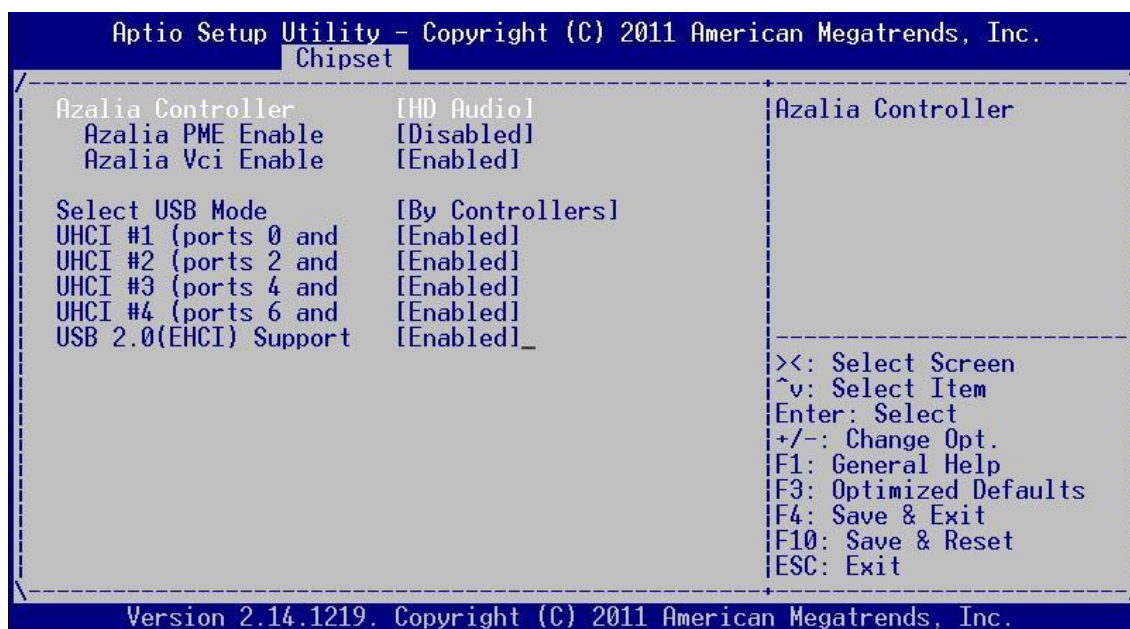
3.3.2 South Bridge Screen

The South Bridge Screen allows user to set SB chipset configuration.

To access this screen from the Main screen, choose **Chipset > South Bridge**.



Setup Item	Options	Help Text	Comments
TPT Devices		Enable/Disable Intel(R) IO Controller Hub (TPT) devices	
Restore AC Power Loss	Power off Power on Last State	Restore AC Power Loss help	

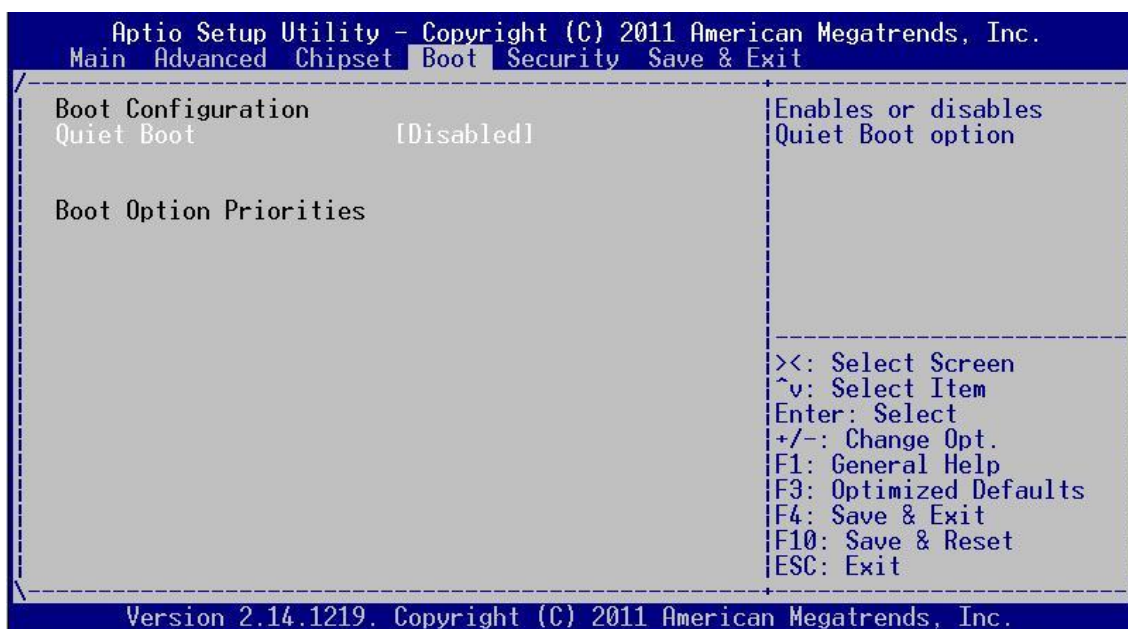


Setup Item	Options	Help Text	Comments
TPT Devices			
Azalia Controller	HD Audio Disabled	Azalia Controller	
Select USB Mode	By Ports By Controllers	Select USB mode to control USB ports	
UHCI #1 (ports 0 and 1)	Disabled Enabled		
UHCI #2 (ports 2 and 3)	Disabled Enabled		
UHCI #3 (ports 4 and 5)	Disabled Enabled		
UHCI #4 (ports 6 and 7)	Disabled Enabled		
USB 2.0(EHCI) Support	Disabled Enabled		

3.4 Boot Screen

The Boot screen displays any bootable media encountered during POST, and allows the user to configure desired boot device.

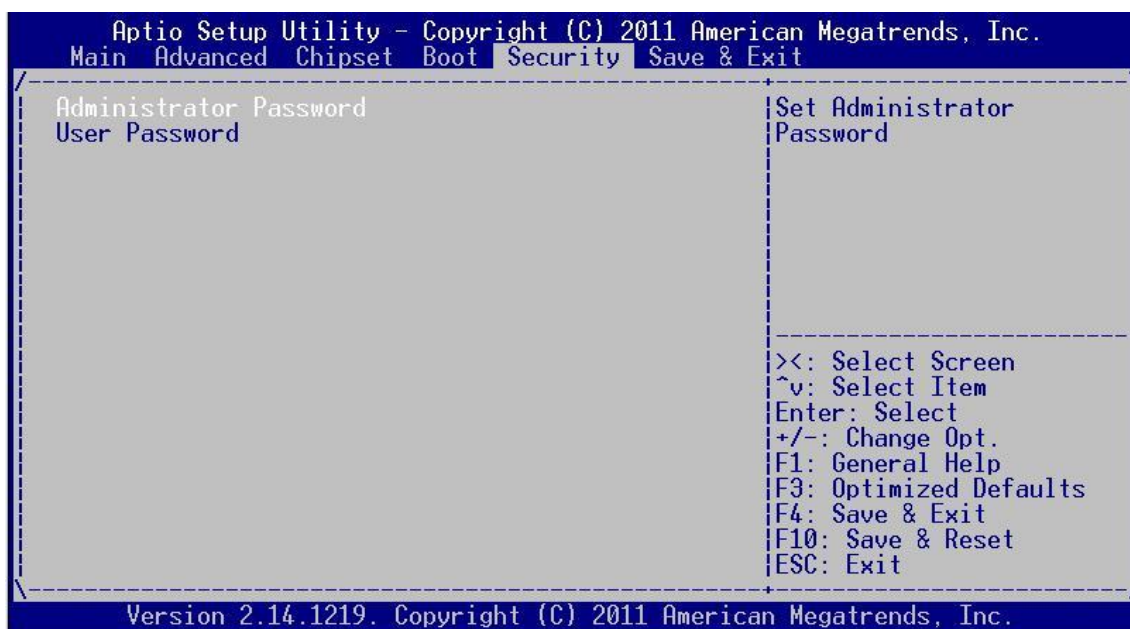
To access this screen from the Main screen, choose **Boot**.



Setup Item	Options	Help Text	Comments
Boot Configuration			
Quiet Boot	Disabled Enabled	Enables/Disables Quiet Boot option	
Boot Option Priorities			
Boot Option #1		Sets the system boot order	Note: Showed When boot devices existed.
Boot Option #2		Sets the system boot order	
Hard Drive BBS Priorities		Set the order of the legacy devices in this group	Set boot order in each group of the same kind, such as HDD, network.

3.5 Security Screen

The Security screen allows the user to enable and set the user and administrative password. To access this screen from the Main screen, choose **Security**.



Setup Item	Options	Help Text	Comments
Administrator Password		Set Setup Administrator Password	NOTE: Password can be cleared when blank password set.
User Password		Set User Password	

3.6 Save & Exit Screen

The Save & Exit screen allows the user to choose whether to save or discard the configuration changes made on the other screens. It also allows the user to restore the server to the factory defaults or to save or restore them to set of user-defined default values.



Setup Item	Options	Help Text	Comments
Save Changes and Exit		Exit system setup after saving the changes.	User is prompted for confirmation only if any of the setup fields were modified.
Discard Changes and Exit		Exit system setup without saving any changes.	
Save Changes		Save Changes done so far to any of the setup options.	User is prompted for confirmation only if any of the setup fields were modified.
Discard Changes		Discard Changes done so far to any of the setup options.	
Restore Defaults		Restore/Load Defaults values for all the setup options.	
Save as User Defaults		Save the changes done so far as User Defaults.	
Restore User Defaults		Restore the User Defaults to all the setup options.	

附录

附一：Watchdog 编程指引

W83627DHG-P watchdog 参考代码。

在debug命令下通过对相应端口写数据来操作端口，实现watchdog timer的不同功能。

端口说明：

2EH: 地址寄存器

2FH: 数据寄存器

例子：设置watchdog timer 为30秒

在DOS 模式下运行debug命令：

```
C:\>debug
-o 2e 87
-o 2e 87          ; 解锁
-o 2e 2d
-o 2f 20          ;bit0=0,set pin as watchdog func
-o 2e 07
-o 2f 08          ;选择逻辑设备
-o 2e 30
-o 2f 01          ;active 逻辑设备
-o 2e f5
-o 2f 00          ;设置计时单位为秒（设置分： -o 2f 08）
-o 2e f6
-o 2f 1E          ;设置timer count 为1eh=30秒
-o 2e AA          ;锁定寄存器退出ITE8718的访问
-q              ;退出debug
C:\>
```

附二：术语表

ACPI

高级配置和电源管理。ACPI 规范允许操作系统控制计算机及其附加设备的大部份电能。

BIOS

基本输入/输出系统。是在 PC 中包含所有的输入/输出控制代码界面的软件。它在系统启动时进行硬件检测，开始操作系统的运作，在操作系统和硬件之间提供一个界面。BIOS 是存储在一个只读存储器芯片内。

BUS

总线。在计算机系统中，不同部件之间交换数据的通道，是一组硬件线路。我们所指的 BUS 通常是 CPU 和主内存元件内部的局部线路。

Chipset

芯片组。是为执行一个或多个相关功能而设计的集成芯片。我们指的是由南桥和北桥组成的系统级芯片组，他决定了主板的架构和主要功能。

CMOS

互补金属-氧化物半导体。是一种被广泛应用的半导体类型。它具有高速、低功耗的特点。我们指的 CMOS 是在主板上的 CMOS RAM 中预留的一部份空间，用来保存日期、时间、系统信息和系统参数设定信息等。

COM

串口。一种通用的串行通信接口，一般采用标准 DB9 公头接口连接方式。

DIMM

双列直插式内存模块。是一个带有内存芯片组的小电路板。提供 64bit 的内存总线宽度。

DRAM

动态随机存取存储器。是一个普通计算机的通用内存类型。通常用一个晶体管和一个电容来存储一个位。随着技术的发展，DRAM 的类型和规格已经在计算机应用中变得越来越多样化。例如现在常用的就有 SDRAM、DDR SDRAM 和 RDRAM。

L2c

Inter-Integrated Circuit 总线是一种由 PHILIPS 公司开发的两线式串行总线，用于连接微控制器及其外围设备。

LAN

局域网接口。一个小区内相互关联的计算机组成的一个计算机网络，一般是在一个企事业单位或一栋建筑物。局域网一般由服务器、工作站、一些通信链接组成，一个终端可以通过电线访问数据和设备的任何地方，许多用户可以共享昂贵的设备和资源。

LED

发光二极管，一种半导体设备，当电流流过时它会被点亮，通常用来把信息非常直观地表示出来，例如表示电源已经导通或硬盘驱动器正在工作等。

PnP

即插即用。允许 PC 对外接设备进行自动配置，不用用户手动操作系统就可以自己工作的一种规格。为实现这个特点，BIOS 支持 PnP 和一个 PnP 扩展卡都是必需的。

POST

上电自检。在启动系统期间，BIOS 会对系统执行一个连续的检测操作，包括检测 RAM，键盘，硬盘驱动器等，看它们是否正确连接和是否正常工作。

PS/2

由 IBM 发展的一种键盘和鼠标连接的接口规范。PS/2 是一个仅有 6PIN 的 DIN 接口，也可以用以连接其他的设备，比如调制解调器。

USB

通用串行总线。一种适合低速外围设备的硬件接口，一般用来连接键盘、鼠标等。一台 PC 最多可以连接 127 个 USB 设备，提供一个 12Mbit/s 的传输带宽；USB 支持热插拔和多数据流功能即在系统工作时可以插入 USB 设备，系统可以自动识别并让插入的设备正常。