

# **Industrial PANEL PC**

**KPC** User Manual



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## **Package Contents**

Please make sure that the items shown below are included in the package. Should an item be missing, please contact the local retailer from which you purchased this product.

- 1 x Industrial Touch Panel PC
- 1 x DC in Power adapter
- 1 x Riser card (1 x PCl slot) for 12.1" and 1 x Riser card (2 x PCl slot) for 15", 17", 19" and 21.5"
- 1 x Power cord
- 1 x CD
- 4 x screws (M3 x 4) for 2.5" HDD or SSD (If customers order 2.5" HDD or SSD from our side, we don't offer 4 screws)

### **Safety Instructions**

- Read Instructions: All the safety and operating instructions should be read before the equipment is operated.
- 2. Retain Instructions: The safety and operating instructions should be retained for future reference.
- Cleaning: Unplug this equipment from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 4. Water and Moisture: Do not use this equipment near water.
- Ventilation: The openings on the enclosure are provided for ventilation to ensure reliable operation of the equipment and to protect it from overheating. These openings should never be blocked.
- Power Sources: This equipment should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply, consult your dealer or local power company.
- 7. Heed Warnings: All warnings on the equipment and in the operating instructions should be adhered to.
- 8. Object and Liquid Entry: Never push objects of any kind into this equipment through openings as they may touch dangerous voltage points or shout-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

- Servicing: Do not attempt to service this equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 10. Damage Requiring Service: Unplug this equipment from the outlet and refer servicing to qualified service personnel under the following conditions: a) if the power cord or plug is damaged; b) if liquid has penetrated into the equipment; c) if the equipment has been exposed to moisture; d) if the equipment does not work well, or you cannot get it to work according to the user's manual; e) if the equipment has been dropped and damaged; f) if the equipment has obvious signs of breakage.
- 11. Do not leave this equipment in an environment where the storage temperature is below -10°C or above 70°C. It may damage the equipment.
- 12. Do not open the sealed enclosure / case of equipment. Once enclosure is disassembled without approval, it will lead in abnormal operating of water proof gel. For Guarantee of water proof function, please make sure configuration / peripheral has been confirmed to install before shipping.

## **Regulatory Compliance Statements**

### **FCC**

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received including interference that may cause undesired operation.

### CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

### Introduction

KPC Series is a standard industrial touch panel PC built based on Mini-ITX form factor and offers another option on I/O port availability, system scalability and DC input voltage.

Brained with Intel Atom D2550, KPC Series is a mid-level device and intended for manufacturers providing a cost-effective solution to their automation, monitoring, control or data processing systems. It has both PCI and Mini PCIe slots to enable more applications, such as computing, imaging, storage or networking.

Finally, the waterproof gasket design and an external DVD-RW driver are offered optionally for advanced protection from water intrusion and easy data storage / backup respectively.

You can also choose to integrate a RFID sensor into the device for RFID technology application, such as logistics, warehousing, distribution or industrial automation (identification of workpiece carriers on assembly lines, material flow control, identification of containers and other receptacles).

### **Features**

- Intel Dual Core Atom D2550 1.86Ghz Mini-ITX Mainboard
- Fanless and compact design
- CPU on board
- Low power consumption
- DC in 12V/19V/24V / DC in 12V
- 2 x GLAN
- Up to 6 x COM (12/19/24V) / up to 3 x COM (12V)
- 4 x USB
- 1 x DVI-I (12/19/24V) / 1 x HDMI (12V)
- 800 x 600 dpi (12.1")
- 1024 x 768 dpi (12.1" and 15")
- 1280 x 1024 dpi (17" and 19")
- 1920 x 1080 dpi (21.5")
- IP65 compliant 6 mm thickness aluminum / stainless steel front bezel
- High quality black / silver aluminum or silver stainless steel front bezel with anodic treatment

# **Motherboard Specification**

Model Name	KD9895	KD9893		
CPU	Intel® Atom™ D2550, 1.86GHz, 1M cache			
Chipset	Intel® NM10			
BIOS	AMI 16 Mbit SPI BIOS	AMI 32 Mbit SPI BIOS		
Memory	1 x 204-pin SODIMM socket sup	ports DDR3 1066MHz up to 4GB		
Display	Controller: Intel® GMA 3650 Interfaœ: 1 x VGA, 2 x LVDS (18/24-bit, 24-bit), 1 x DVI-D	Controller: Intel® GMA 3650 Interface: 1 x VGA, 1 x LVDS (18/24-bit), 1 x HDMI		
Ethernet	2 x Intel 82574L 10/100/1000 Mbps	2 x Realtek 8111E 10/100/1000 Mbps		
Audio	Realtek® ALC886 2-channel High Definition Audio	Realtek® ALC887 High Definition Audio		
Storage	2 x SATA 2.0, 1 x CF	2 x SATA 2.0, 1 x mSATA (shared with Mini PCle slot)		
Expansion	1 x PCI, 1 x Mini PCIe	1 x PCI, 1 x Mini PCIe (with mSATA function)		
Internal I/O	- 4 x USB 2.0 -8 x RS-232 - 2 x LVDS -1 x GPIO - 1 x Audio	- 2 x USB 2.0 - 4 x RS-232 - 1 x LVDS - 1 x GPIO - 1 x Audio		
Rear Panel I/O Port	- 1 x PS/2 mouse - 1 x PS/2 keyboard - 1 x VGA - 1 x DVI-D - 1 x RS-232 - 1 x RS-232/422/485 - 2 x RJ45 LAN - 4 x USB 2.0 - 1 x Line-in, 1 x Line-out, 1 x Mic-in	- 1 x PS/2 mouse - 1 x PS/2 keyboard - 1 x VGA - 1 x HDMI - 1 x RS-232 - 1 x RS-232/422/485 - 2 x RJ45 LAN - 4 x USB 2.0 - 1 x Line-in, 1 x Line-out, 1 x Mic-in		
Power	DC 12V/19V/24V input	DC-in 12V		
Watchdog Timer	Output System reset, Programmable 1 ~ 255 sec/min  Operating temperature: 0°C ~ 60°C  Storage temperature: -20°C ~ 80°C			
Environment				

# **System Specification**

		12" LCD	12" LCD	15" LCD
СРИ		Intel Dual Core Atom D2550		
Chipset		Intel NM10		
Memory		1 x DDR III SODIMM up to 4 GB		
Power Supply		DC in 12V / 19V / 24V external power adapter		
I/O Ports		2 x RS232, 2 x GLAN, 4 x USB, 1 x VGA, 1 x DVI-I, 2 x PS2, 1 x Line-in, 1 x Line-out, 1 x Mic-in, 2 x SATA socket 1 x Power terminal block, Extra 3 x RS232 optional, 1 x RS232/422/485 optional		
Expansion		1 x PCI slot, 1 x Mini PCIe slot		
	Size/Type	12.1"TFT (4:3)	12.1"TFT (4:3)	15"TFT (4:3)
	Resolution	800 x 600	1024 x 768	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M
Disaste.	Luminanœ (cd/m2)	400	500	350
Display	Contrast Ratio	600:1	700:1	700:1
	Viewing Angle (H/V°)	160/120	160/160	140/125
	MTBF	50,000 hrs	50,000 hrs	50,000 hrs
	Touch Screen	5-wire resistive	5-wire resistive	5-wire resistive
Installation		Panel mount & VESA mount 75 x 75 mm		Panel mount & VESA mount 100 x 100 mm
Dii	mension (W x H x D)	354.9 x 264.7 x 99 mm	354.9 x 264.7 x 99 mm	400.9 x 303.7 x 93 mm
	Weight	6.5 kg	6.5 kg	7.5 kg
Operation Temperature		0°C ~ 45°C		
St	torage Temperature	-10°C ~ 70°C		
Relative Humidity		0% - 95% non-condensing		
	OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP		ded XP
Optional Items		Waterproof gasket, External DVD-RW driver, RFID sensor, None touch screen, Open frame, Stainless front bezel Memory, Storage devices, WiFi, OS		

# **System Specification**

		17" LCD	19" LCD	21" LCD	
CPU		Intel Dual Core Atom D2550			
Chipset		Intel NM10			
Memory		1 x DDR III SODIMM up to 4 GB			
PowerSupply		DC in 12V / 19V / 24V external power adapter			
I/O Ports		2 x RS232, 2 x GLAN, 4 x USB, 1 x VGA, 1 x DVI-I, 2 x PS2, 1 x Line-in, 1 x Line-out, 1 x Mic-in, 2 x SATA socket 1 x Power terminal block, Extra 3 x RS232 optional, 1 x RS232/422/485 optional			
Expansion		1 x PCI slot, 1 x Mini PCIe slot			
	Size/Type	17"TFT (4:3)	19"TFT (4:3)	21.5"TFT (4:3)	
	Resolution	1280 x 1024	1280 x 1024	Full HD 1920 x 1080	
	Colors	16.7 M	16.7 M	16.7 M	
Diantari	Luminanœ (cd/m2)	300	250	300	
Display	Contrast Ratio	800:1	1000:1	1000:1	
	Viewing Angle (H/V°)	140/125	140/125	170/160	
	MTBF	50,000 hrs	50,000 hrs	50,000 hrs	
	Touch Screen	5-wire resistive	5-wire resistive	5-wire resistive	
	Installation	Panel mount & VESA mount 100 x 100 mm		m	
Dimension (W x H x D)		453.5 x 352 x 88.5 mm	487 x 376.8 x 93.7 mm	581.3 x 337.2 x 93.6 mm	
	Weight	10.5 kg	11.5 kg	13.5 kg	
Operation Temperature		0°C ~ 45°C			
Storage Temperature		-10°C ~ 70°C			
Relative Humidity		0% - 95% non-condensing			
	OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP		ded XP	
Optional Items		Waterproof gasket, External DVD-RW driver, RFID sensor, None touch screen, Open frame, Stainless front bezel Memory, Storage devices, WiFi, OS			

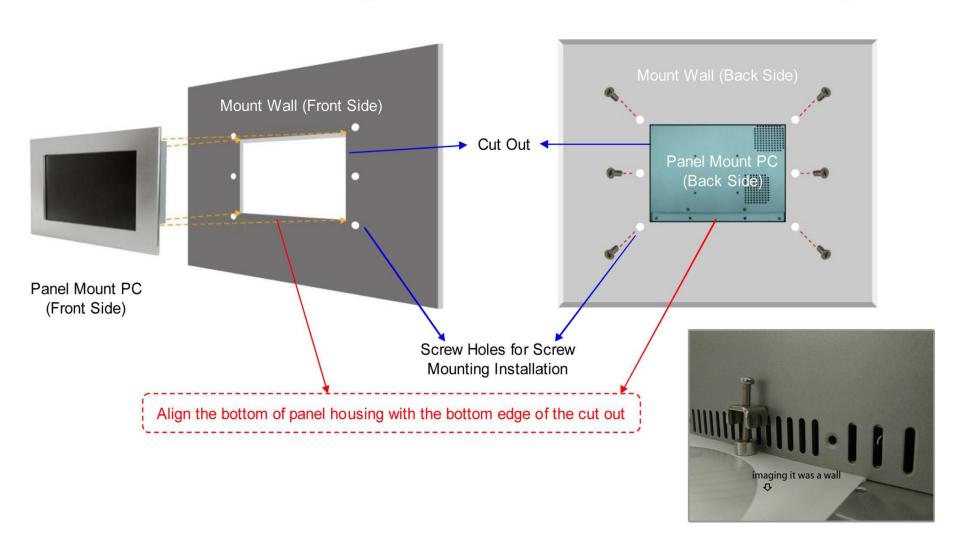
# **System Specification**

		12" LCD	12" LCD	15" LCD
СРИ		Intel Dual Core Atom D2550		
Chipset		Intel NM10		
Memory		1 x DDR III SODIMM up to 4 GB		
Power Supply		DC in 12V external power adapter		
I/O Ports		1 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB, 1 x VGA, 1 x HDMI, 2 x PS2 1 x Line-in, 1 x Line-out, 1 x Mic-in, 2 x SATA socket, 1 x Power terminal block, Extra 1 x RS232 optional		
Expansion		1 x PCI slot, 1 x Mini PCIe slot (with mSATA function)		
	Size/Type	12.1"TFT (4:3)	12.1"TFT (4:3)	15"TFT (4:3)
	Resolution	800 x 600	1024 x 768	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M
D'ante	Luminanœ (cd/m2)	400	500	350
Display	Contrast Ratio	600:1	700:1	700:1
	Viewing Angle (H/V°)	160/120	160/160	140/125
	MTBF	50,000 hrs	50,000 hrs	50,000 hrs
	Touch Screen	5-wire resistive	5-wire resistive	5-wire resistive
Installation		Panel mount & VESA mount 75 x 75 mm		Panel mount & VESA mount 100 x 100 mm
Dii	mension (W x H x D)	354.9 x 264.7 x 99 mm	354.9 x 264.7 x 99 mm	400.9 x 303.7 x 93 mm
	Weight	6.5 kg	6.5 kg	7.5 kg
Operation Temperature		0°C ~ 45°C		
Storage Temperature		-10°C ~ 70°C		
Relative Humidity		0% - 95% non-condensing		
	OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP		ded XP
Optional Items		Waterproof gasket, External DVD-RW driver, RFID sensor, None touch screen, Open frame, Stainless front bezel Memory, Storage devices, WiFi, OS		

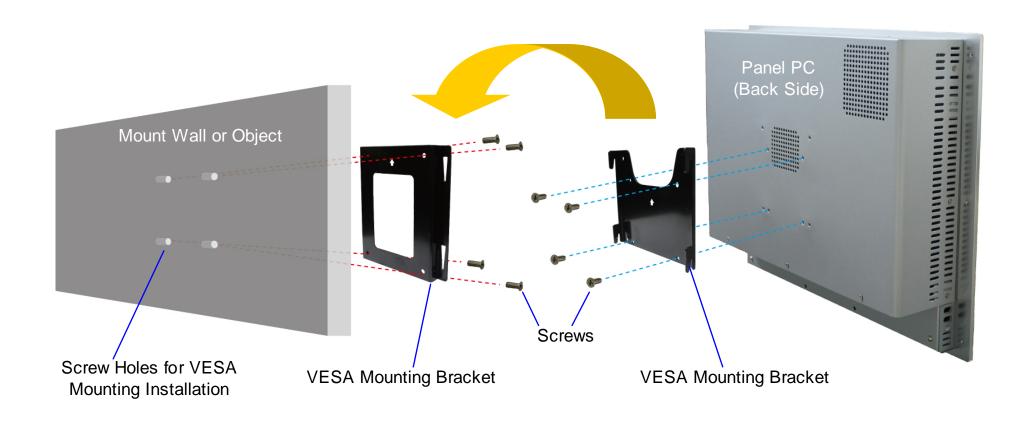
## **Screw Mounting Installation**

### Front Side of the Mounting Wall

### **Back Side of the Mounting Wall**



## **VESA Mounting Installation**



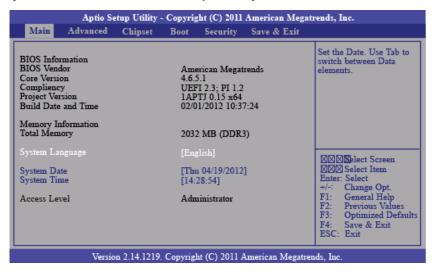
```
...... Sep 1: screw the VESA mounting plate to the Panel PC
```

······ Step3: slide the VESA mounting plate onto the VESA mounting bracket

<sup>······</sup> Step2: screw the VESA mounting bracket to the front of a wall or the front / back of an object dependingly

#### Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



### System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1980 to 2099.

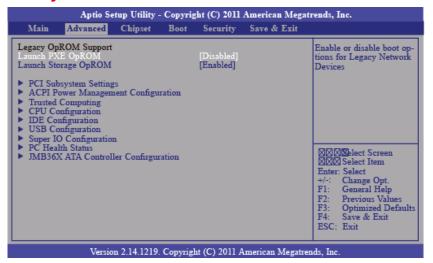
#### System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

#### **Advanced**

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Important: Setting incorrect field values may cause the system to malfunction.



### Launch PXE OpROM

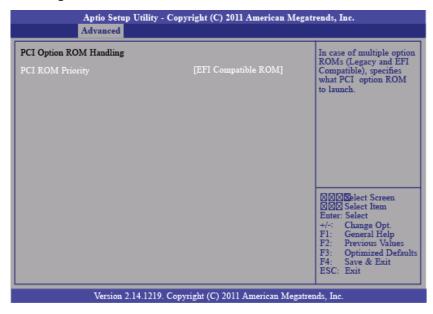
Enables or disables the boot option for legacy network devices.

### Launch Storage OpROM

Enables or disables the boot option for legacy mass storage devices with option ROM.

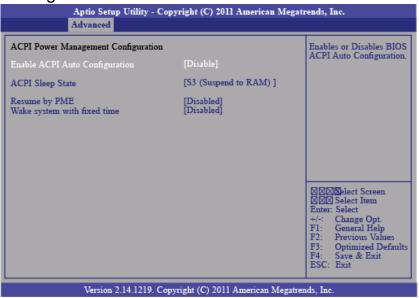
### **PCI Subsystem Settings**

This section is used to configure the PCI subsystem settings.



### **ACPI Power Management Configuration**

This section is used to configure the ACPI Power Management.



### **ACPI Sleep State**

Selects the highest ACPI sleep state the system will enter when the Suspend button is pressed.

S1(POS) Enables the Power On Suspend function.

S3(STR) Enables the Suspend to RAM function.

### Resume by PME

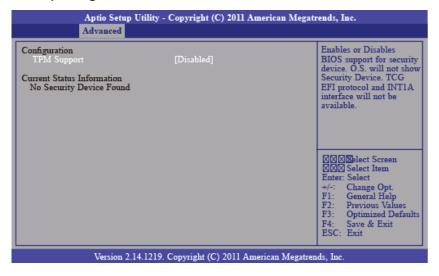
Enable this field to use the PME signal to wake up the system.

### Wake system with fixed time

Enable or disable system wake on alarm event. When enabled, system will wake on the hr::min::sec specified.

### **Trusted Computing (optional)**

This section configures settings relevant to Trusted Computing innovations.

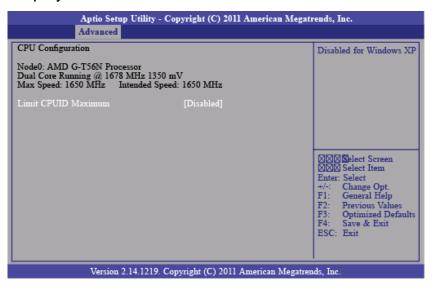


### TPM Support

Enables or Disables TPM. O.S. will not show TPM. Resetting the platform is required.

### **CPU Configuration**

This section is used to configure the CPU. It will also display the detected CPU information.

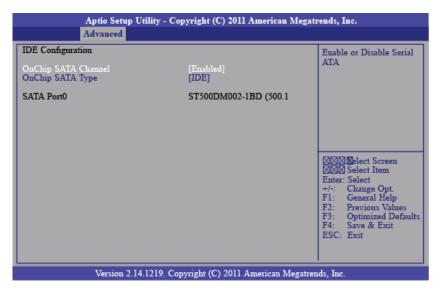


#### Limit CPUID Maximum

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or less than 3.

### **IDE Configuration**

This section is used to configure IDE functions.



### OnChip SATA Type

This field is used to configure the SATA devices supported by the AMD T56N/T40N.

**Native IDE** This option configures the Serial ATA drives as Parallel ATA storage devices.

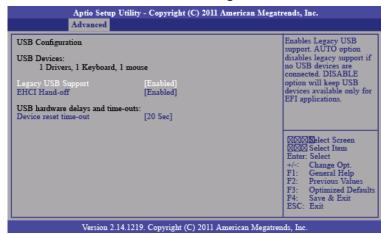
**RAID** This option allows you to create RAID on Serial ATA devices.

**AHCI** This option allows the Serial ATA devices to use AHCI (Advanced Host Controller Interface).

**Legacy IDE** This option configures the Serial ATA drives as Legacy IDE storage devices.

### **USB** Configuration

This section is used to configure USB.



### Legacy USB Support

Enabled

Enables legacy USB.

Auto

Disables support for legacy when no USB devices are connected.

Disabled

Keeps USB devices available only for EFI applications.

**EHCI Hand-off** 

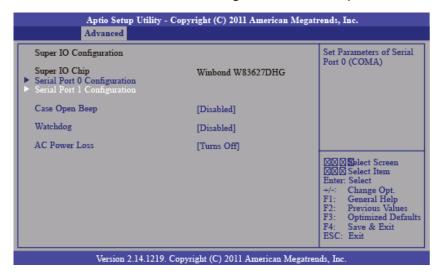
This is a workaround for OSes that does not support EHCl hand-off. The EHCl ownership change should be claimed by the EHCl driver.

Device reset time-out

Selects the USB mass storage device start unit command timeout.

### **Super IO Configuration**

This section is used to configure the serial port functions.



### Case Open Beep

Set this field to Enabled to allow the system to alert you of a chassis intrusion event.

### Watchdog

This field is used to enable or disable the Watchdog Timer function.

### **AC Power Loss**

Turns Off

When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.

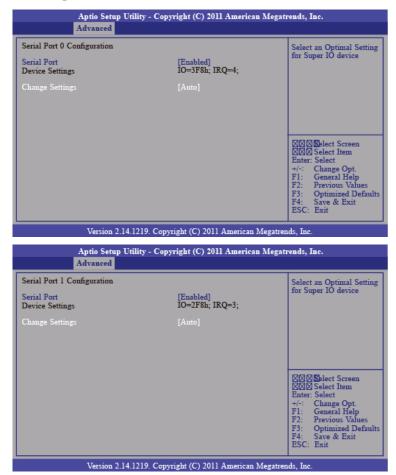
#### Turns On

When power returns after an AC power failure, the system will automatically power-on.

#### Former-Sts

When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns

# Serial Port 0 Configuration to Serial Port 1 Configuration



#### Serial Port

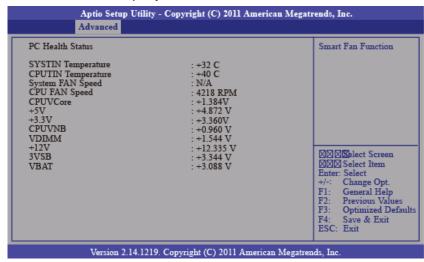
Enables or disables the serial port.

### **Change Settings**

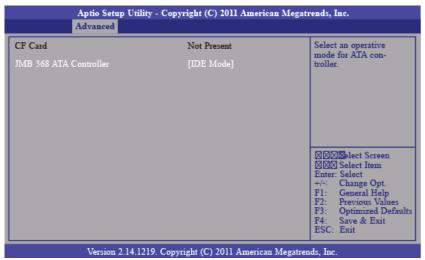
Selects the IO/IRQ setting of the I/O device.

#### **PC Health Status**

This section displays the SIO hardware health monitor.

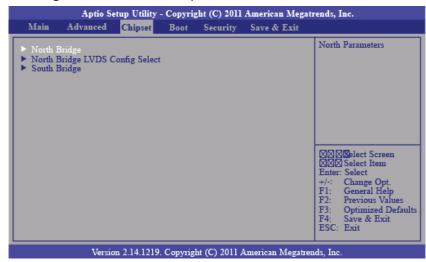


### **JMB36X ATA Controller Configuration**

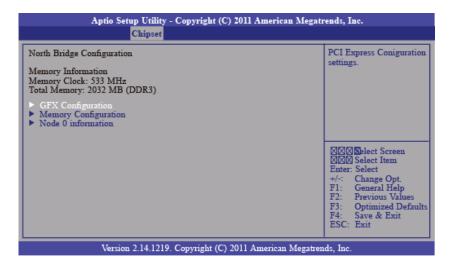


### Chipset

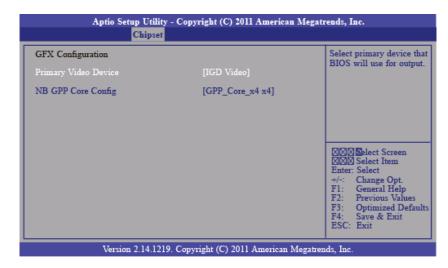
Configures relevant chipset functions.



### **North Bridge Configuration**

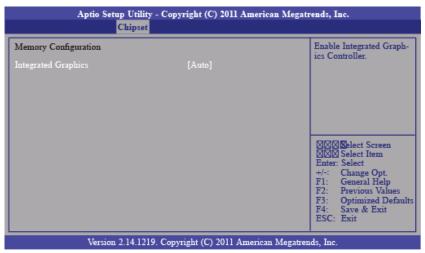


### **GFX Configuration**

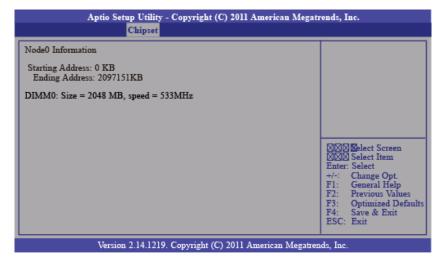


NB GPP Core Config
Selects the NB GPP Core configuration.

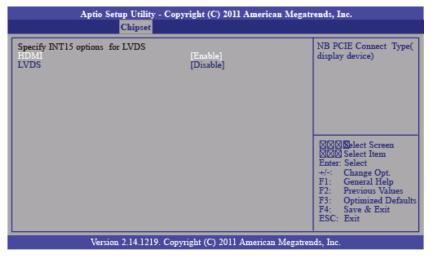
### **Memory Configuration**



### **Node 0 Information**



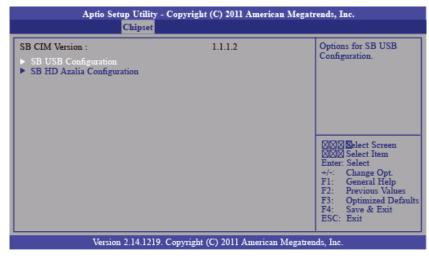
### North Bridge LVDS Config Select



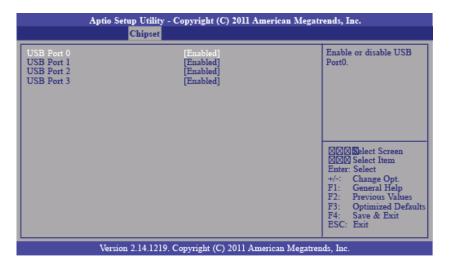
### **LVDS**

This field is used to enable or disable the LVDS Panel

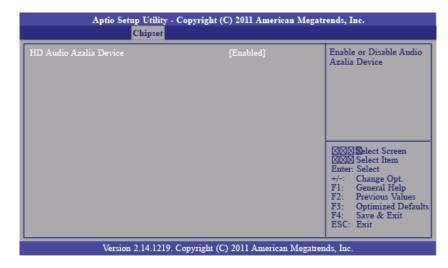
### **South Bridge**



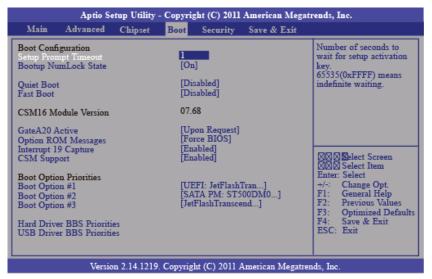
### **SB USB configuration**



### **SB HD Azalia configuration**



#### **Boot**



### Setup Prompt Timeout

Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting. Bootup NumLock State

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

#### Quiet Boot

Enables or disables the quiet boot function.

### Fast Boot

Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

#### GateA20 Active

Upon Request- GA20 can be disabled using BIOS services.

Always- Do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

### Option ROM Messages

Set display mode for option ROM.

### Interrupt 19 Capture

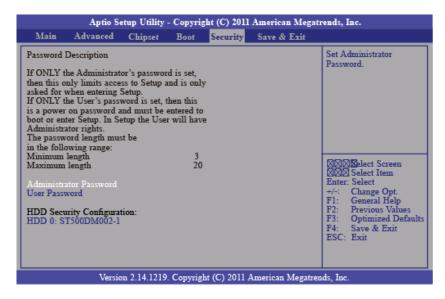
Enabled: Allows option ROMs to trap Int 19.

#### Disabled:

### **CSM Support**

Enabled/ disabled CSM support. If auto is selected, based on OS, CSM will be enabled/ disabled automatically.

### Security



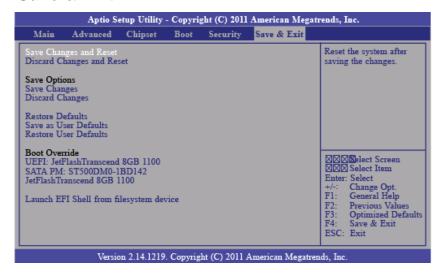
**Administrator Password** 

Sets the administrator password.

**User Password** 

Sets the user password.

#### Save & Exit



### Save Changes and Reset

To save the changes, select this field and then press <Enter>. A dialog box will appear. Select Yes to reset the system after saving all changes made.

### Discard Changes and Reset

To discard the changes, select this field and then press <Enter>. A dialog box will appear. Select Yes to reset the system setup without saving any changes.

### Save Changes

Save the changes done so far to any of the setup options.

### **Discard Changes**

Discard the changes done so far to any of the setup options.

### **Restore Defaults**

To restore and load the optimized default values, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore the default values of all the setup options.

Save as User Defaults

To save changes done so far as user default, select this field and then press <Enter>. A dialog box will appear. Select Yes to save values as user default.

### Restore User Defaults

To restore user default to all the setup options, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore user default.

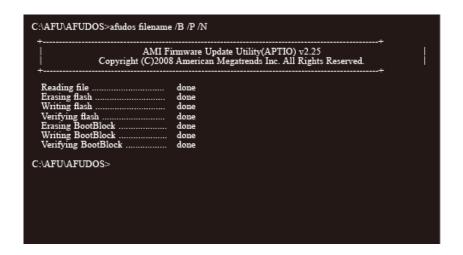
### **Updating the BIOS**

To update the BIOS, you will need the new BIOS file and a flash utility, AFUDOS.EXE. Please contact technical support or your sales representative for the files.

To execute the utility, type:

A:> AFUDOS BIOS\_File\_Name /b /p /n

then press <Enter>.



### **Driver Installation**

The KPC Series comes with an AutoRun CD-ROM that contains all drivers and utilities that can help you to install the driver automatically.

Insert the driver CD, the driver CD-title will auto start and show the installation guide. If not, please follow the sequence below to install the drivers.

#### Step 1 – Install Chipset Driver

- 1. Click on the STEP1-CHIPSET folder and select the OS folder your system is
- 2. Double click on the .exe file located in each OS folder
- 3. Follow the instructions that the window shows
- 4. The system will help you install the driver automatically

#### Step 2 – Install VGA Driver

- 1. Click on the STEP2-VGA folder and select the OS folder your system is
- 2. Double click on the Setup.exe file located in each OS folder
- 3. Follow the instructions that the window shows
- 4. The system will help you install the driver automatically

### Step 3 -Install LAN Driver

- 1. Click on the STEP3-LAN folder and select the OS folder your system is
- 2. Double click on the .exe file located in each OS folder
- 3. Follow the instructions that the window shows
- 4. The system will help you install the driver automatically

### Step 4 –Install Touch Driver (Optional)

- 1. Click on the STEP4-TOUCH (Option) folder and select the OS folder your system is
- 2. Double click on the .exe located in each OS folder
- 3. Follow the instructions that the window shows
- 4. The system will help you install the driver automatically

### Step 5 -Install Rapid Storage Driver (Optional)

- 1. Click on the STEP5-RAPID STORAGE (Option) folder and double click on the setup.exe
- 2. Follow the instructions that the window shows
- 3. The system will help you install the driver automatically

### **Contact Information**

Any questions, please contact contact us via the following means:

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