



USER MANUAL

ARTiGO A1250

Ultra-slim system for semi-embedded
industrial application for
digital signage media player



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FCC-A Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his personal expense.

Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

Notice 3

The product described in this document is designed for general use, VIA Technologies assumes no responsibility for the conflicts or damages arising from incompatibility of the product. Check compatibility issue with your local sales representatives before placing an order.



Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE



Battery Recycling and Disposal

- ☐ Only use the appropriate battery specified for this product.
- ☐ Do not re-use, recharge, or reheat an old battery.
- ☐ Do not attempt to force open the battery.
- ☐ Do not discard used batteries with regular trash.
- ☐ Discard used batteries according to local regulations.



CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Safety Precautions

- ☐ Always read the safety instructions carefully.
- ☐ Keep this User's Manual for future reference.
- ☐ All cautions and warnings on the equipment should be noted.
- ☐ Keep this equipment away from humidity.
- ☐ Lay this equipment on a reliable flat surface before setting it up.
- ☐ Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
- ☐ Place the power cord in such a way that people cannot step on it.
- ☐ Always unplug the power cord before inserting any add-on card or module.
- ☐ If any of the following situations arises, get the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not worked well or you cannot get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - The equipment has obvious sign of breakage.
- ☐ Do not leave this equipment in an environment unconditioned or in a storage temperature above 60°C (140°F). The equipment may be damaged.
- ☐ Do not leave this equipment in direct sunlight.
- ☐ Never pour any liquid into the opening. Liquid can cause damage or electrical shock.
- ☐ Do not place anything over the power cord.
- ☐ Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating

Box Contents

- ☐ 1 x ARTiGO A1250 system
- ☐ 1 x AC-to-DC adapter
- ☐ 1 x Power cord
- ☐ 1 x SATA cable
- ☐ 1 x Screw pack for HDD
- ☐ 1 x DC plug strap holder

Ordering Information

Part Number	Description
ATG-A1250-5Q12A3	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 x USB 3.0, 2 x USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, US Power Cord
ATG-A1250-6Q12A3	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 x USB 3.0, 2 x USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, EU Power Cord
ATG-A1250-7Q12A3	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 x USB 3.0, 2 x USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, JP Power Cord
ATG-A1250-8Q12A3	1.2GHz VIA Eden® X4 CPU Based Semi-Embedded System with Mini HDMI, VGA, 2 x USB 3.0, 2 x USB 2.0, Gigabit Ethernet, SATA, 12V DC-in, CN Power Cord

Optional Accessories

Wireless Accessories

Part Number	Description
00GO27100BU2B0D0	VNT9271 IEEE 802.11b/g/n USB Wi-Fi dongle
EMIO-1533-00A2	VNT9271 IEEE 802.11b/g/n USB Wi-Fi module with assembly kit

Mounting Options

Part Number	Description
99G42-09288E-1	Mechanism kit, wall mount bracket, 116mm x 116mm x 18.4mm

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1. Product Overview

The VIA ARTiGO A1250 is a compact, ultra-slim and fan-base embedded system with an elegant chassis design that fits easily into any environment and is suitable for a broad spectrum of applications, including media streaming, home automation, digital signage and surveillance.

The ARTiGO A1250 is powered by high performance 1.2GHz VIA Eden® X4 processor which includes the VIA AES Security Engine, VIA CoolStream™ Architecture and VIA PowerSaver™ Technology. The ARTiGO A1250 is fully compatible with Microsoft Windows and Linux operating systems.

The ARTiGO A1250 supports intensive dual sided I/O connectors such as USB 2.0 ports, USB 3.0 ports, VGA port, mini HDMI port, Gigabit Ethernet port, and audio jacks for diversified embedded applications. In addition, the ARTiGO A1250 offers an expanding option for Wi-Fi networking system through USB Wi-Fi module.

The ARTiGO A1250's system is a robust aluminum alloy with rugged bottom steel chassis.

1.1. Key Features

1.1.1. Powered by VIA Eden® X4 Processor

The VIA Eden® X4 processor is a 64-bit superscalar x86 quad core processor packed into an ultra-compact NanoBGA2 package. The VIA Eden® X4 processor delivers a superb performance on multi-tasking, multimedia, playback, productivity, internet browsing in a lower power budget that makes it ideal for embedded system application.

1.1.2. Compact, Ultra-slim and Space Saving

The ARTiGO A1250 has an ultra slim and compact chassis, designed to save space that makes it suitable to install in space critical environment and to ensure maximum reliability. It is using a low noise but high efficient fan as a thermal solution.

1.1.3. Optimize Integration with Dual Sided I/O Access

Front and back panel I/O access enables the ARTiGO A1250 to easily support various applications as well as for easy integration and quick setup.

1.1.4. Wide Range of Operating Temperatures

The ARTiGO A1250 carries a qualified thermal performance design which allows a wide range of operating temperatures from 0°C up to 40°C.

1.1.5. Networking Support

The ARTiGO A1250 is equipped with RJ-45 port that supports high speed Gigabit Ethernet. It also has wireless networking option that gives the system a freedom of Wi-Fi access through USB Wi-Fi module.

1.1.6. Embedded OS Ready

The ARTiGO A1250 is 100% compatible with several operating systems including Windows 10, Windows 8.1, Windows 8, Windows 7, Windows XP, Windows XP Embedded Standard 2009, Windows Embedded Standard 7 and Embedded Linux.

1.2. Product Specifications

□ Processor Core Logic System

- **CPU**
 - 1.2GHz VIA Eden® X4
- **Chipset**
 - VIA VX11H Media System Processor
 - 1066/1333 MHz FSB support
- **System Memory**
 - 1 x SODIMM slot supporting DDR3 1066/1333 MHz
 - Up to 8GB memory size
- **BIOS**
 - AMI Aptio UEFI BIOS, 32Mbit Flash memory
- **System Power Management**
 - Times Power On
 - ACPI supported

□ Graphics

- **Controller**
 - Integrated VIA C-640 DX11 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
- **Display Memory**
 - Optimized Unified Memory Architecture (UMA), supports from 256MB to 1GB frame buffer using system memory
- **CRT Interface**
 - Supports one VGA port. There 10-bit true-color RAMDAC up to 350MHz pixel rate with gamma correction capability
 - Supports up to 2560 x 1600 of pixel resolution
- **HDMI® Interface**
 - Supports one mini HDMI® port
- **Dual Independent Display**
 - Two independent display engines built in VX11 chipset
 - Supports dual independent display of VGA + HDMI® at different resolutions, pixel depths, and refresh rates with completely two different video contents

□ LAN

- **Controller**
 - VIA VT6130 Gigabit Ethernet Controller for PCI Express Interface
- **Interface**
 - One RJ-45 port for Gigabit Ethernet connection
 - Support wake-on-LAN and Boot from LAN (PXE)

□ Audio

- **Controller**
 - VIA VT2021 High Definition Audio Codec
- **Interface**
 - Supports Line-in, Line-out and Mic-in jacks

- **Serial**
 - **USB**
 - Supports two USB 2.0 ports
 - Supports two USB 3.0 ports
- **Storage Interface**
 - **Signal Interface**
 - 1 x onboard SATA II connector, maximum data transfer rate up to 300MB/s
 - 1 x onboard SATA power connector
 - **2.5" Drive Bay**
 - 1 x 2.5" SATA Disk Drive Bay
- **System Indicator**
 - **Power Status LED**
 - One green color LED
 - **HDD Activity LED**
 - One red color LED
- **Watchdog Timer**
 - **Output**
 - System reset
 - **Interval**
 - Programmable 1 ~ 255 sec.
- **External I/O connectors**
 - **Front Panel I/O**
 - 3 x Audio jacks: Line-in, Line-out and Mic-in
 - 2 x USB 2.0 ports
 - 1 x Red LED for HDD activity
 - 1 x Green LED for power status
 - 1 x Power on/off button
 - **Back Panel I/O**
 - 1 x Gigabit Ethernet port
 - 2 x USB 3.0 ports
 - 1 x VGA port
 - 1 x Mini HDMI port
 - 1 x DC-in jack
 - 1 x Antenna hole reserved to support Wi-Fi
 - 1 x DC plug strap holder hole
- **Power Supply**
 - **Power Input Connector**
 - DC-in jack
 - **Power Consumption**
 - Maximum 30W
 - **Input Voltage**
 - 12V DC-in

□ Mechanical

- **Chassis Construction**
 - Aluminum top cover chassis housing
 - Galvanized steel sheet (SECC) body chassis housing
 - Front removable aluminum face plate
- **Venting Holes**
 - Stylish Venting holes on left & right plates
- **Mounting**
 - VESA mounting holes on bottom chassis
- **System Dimension**
 - 177mm(W) x 30mm(H) x 125mm(D) (6.96" x 1.18" x 4.92")
- **Weight**
 - 0.68kg (1.49lbs)

□ Environmental Specification

- **Operating Temperature**
 - 0°C ~ 40°C
- **Storage Temperature**
 - -10°C ~ 60°C
- **Operating Humidity**
 - 0% ~ 90% (non-condensing)
- **Compliance**
 - CE/FCC

□ Software Compatibility (Operating System)

- Windows 10
- Windows 8.1
- Windows 8
- Windows 7
- Windows XP
- Windows XP Embedded Standard 2009
- Windows Embedded Standard 7
- Embedded Linux



Notes:

1. The ambient temperature and the CPU loadings affect the system fan rpm. Therefore, the higher rpm will generate higher fan noise (dB). The smart fan of ARTiGO A1250 system runs at lowest speed (default) at 25°C room temperature and when the CPU loading is less than 60%.
2. As the operating temperature provided in the specifications is a result of the test performed in VIA's chamber, a number of variables can influence this result. Please note that the working temperature may vary depending on the actual situation and environment. It is highly suggested to execute a solid testing and take all the variables into consideration when building the system. Please ensure that the system runs well under the operating temperature in terms of application.

1.3. Layout Diagram

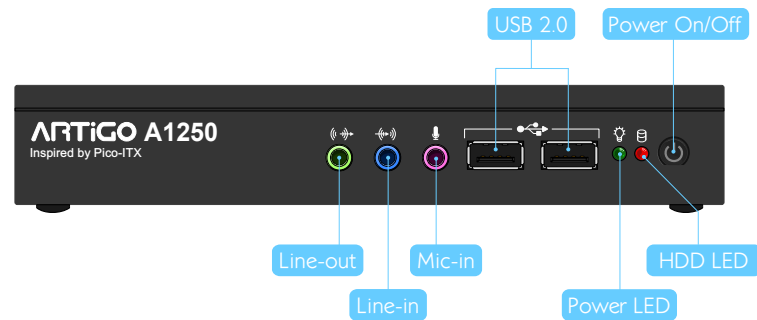


Figure 1: Front panel I/O layout

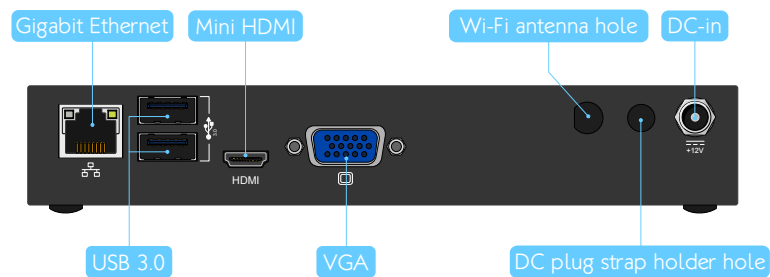


Figure 2: Back panel I/O layout

1.4. Dimensions

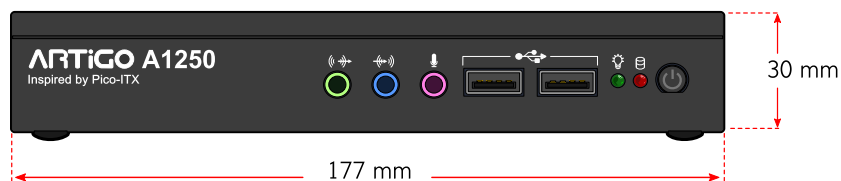


Figure 3: Dimensions of the ARTiGO A1250 (front view)

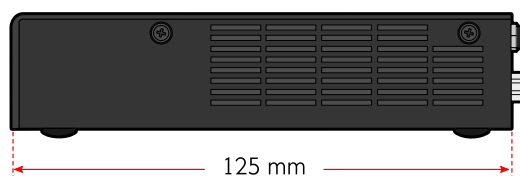


Figure 4: Dimensions of the ARTiGO A1250 (side view)

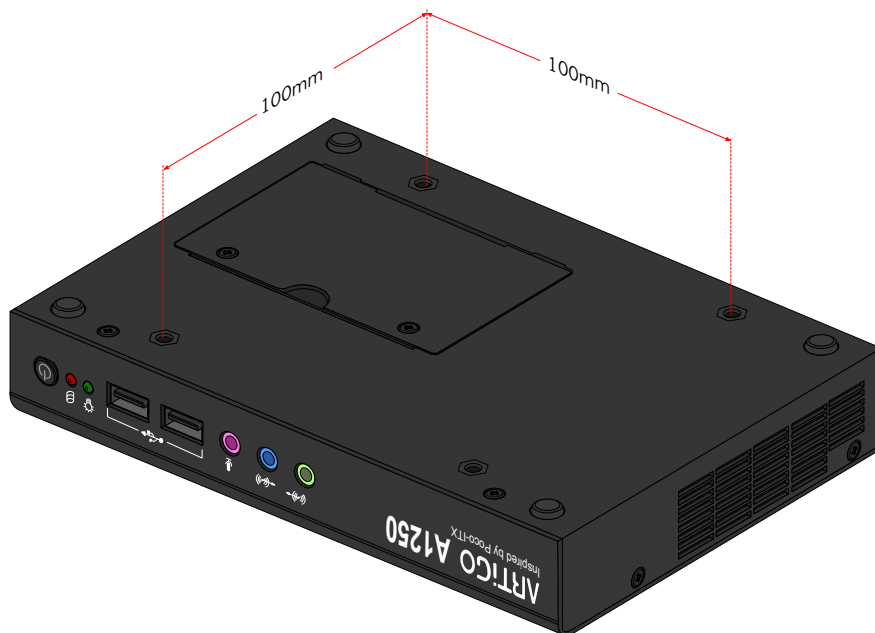


Figure 5: Dimensions of the ARTiGO A1250 (bottom view)

2. External I/O Pin Descriptions and Functionality

The VIA ARTiGO A1250 has a wide selection of interfaces located on the front and back panels as part of the external I/O.

2.1. Power On/Off Button

The ARTiGO-1250 comes with a Power on/off button that supports Soft Power-On/Off (Instant Off or 4 second delay) and Suspend.



Figure 6: Power on/off button diagram

2.2. LED Indicator

There are two LEDs on the front panel that indicate the system status:

- Power LED flashes in green and indicates the status of the system's power status.
- HDD LED flashes in red and indicates any storage activity for the HDD.

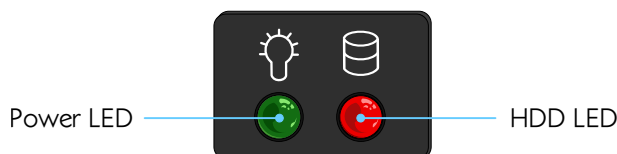


Figure 7: Power and HDD LED indicator diagram

2.3. USB 2.0 Port

The ARTiGO A1250 provides two USB 2.0 ports in the front panel for Plug & Play and hot swapping access to external devices. The USB interface complies with USB UHCI, Rev. 2.0. The pinout of the USB 2.0 port is shown below.



Figure 8: USB 2.0 port diagram

Pin	Signal
1	VCC
2	USB_PO-
3	USB_PO+
4	GND

Table 1: USB 2.0 port pinout



Reminders:

1. The maximum power for both USB ports (together) is 2.5W.
2. Please reserve at least one USB port for keyboard or mouse usage.

2.4. Audio Jack

The ARTiGO A1250 offers High Definition Audio through three 3.5 mm TRS jack connectors: Line-in, Line-out and Mic-in.

The Line-in jack is for connecting external audio devices such as CD player, tape player and etc. The Line-out jack is for connecting to external speakers or headphones. The Mic-in jack is for connecting to a microphone.

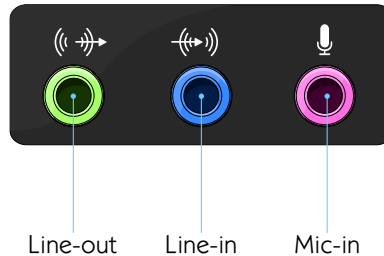


Figure 9: Audio jack receptacle stack diagram

Jack	Description
Line-out	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded
Line-in	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded
Mic-in	TRS jack, 3.5mm Ø 5P, 90 Degree, Female, shielded

Table 2: Audio jack receptacle description

2.5. DC-in Jack

The ARTiGO A1250 comes with a DC power input jack on the back panel that carries 12V DC. external power input.

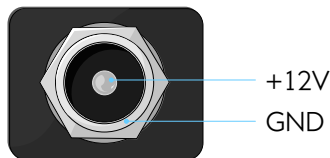


Figure 10: DC-in jack diagram

Pin	Signal
1	GND
2	12V DC

Table 3: DC-in jack pinout

2.6. Gigabit Ethernet Port

The ARTiGO A1250 system is equipped with one Gigabit Ethernet port on the back panel. The Gigabit Ethernet port is fully compliant with IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX), and 802.3ab (1000BASE-T) standards. The pinout of the Gigabit Ethernet port is shown below

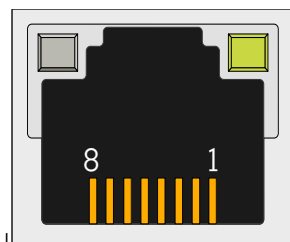


Figure 11: Gigabit Ethernet port diagram

Pin	Signal
1	LAN1_TD0+
2	LAN1_TD0-
3	LAN1_TD1+
4	LAN1_TD1-
5	LAN1_TD2+
6	LAN1_TD2-
7	LAN1_TD3+
8	LAN1_TD3-

Table 4: Gigabit Ethernet port pinout

The Gigabit Ethernet port (RJ-45) has two individual LED indicators located on the front side to show its Active/Link status and Speed status.

	Link LED (Left LED on RJ-45 port)	Active LED (Right LED on RJ-45 port)
Link Off	LED is Off	LED is Off
Speed_10Mbit	The LED is always On in either Green or Orange colors	Flash in Yellow color
Speed_100Mbit	The LED is always On in Green color	Flash in Yellow color
Speed_1000Mbit	The LED is always On in Orange color	Flash in Yellow color

Table 5: Gigabit Ethernet port LED color definition

2.7. USB 3.0 Port

The ARTiGO-1250 is equipped with two USB 3.0 ports, also known as SuperSpeed USB. The USB 3.0 port has a maximum data transfer rate up to 5Gbps and offers a backwards compatible with previous USB 2.0 specifications. It gives complete Plug and Play and hot swap capability for external devices. The pinout of the typical USB 3.0 port is shown below.

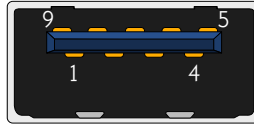


Figure 12: USB 3.0 port diagram

Pin	Signal
1	+5V
2	Data-
3	Data+
4	GND
5	Rx-
6	Rx+
7	GND
8	Tx-
9	Tx+

Table 6: USB 3.0 port pinout

2.8. VGA Port

The ARTiGO A1250 provides a high resolution VGA interface through a 15-pin D-sub female connector to support analog VGA monitors. It supports up to 2560 x 1600 @ 60Hz resolution and up to 512MB shared memory.

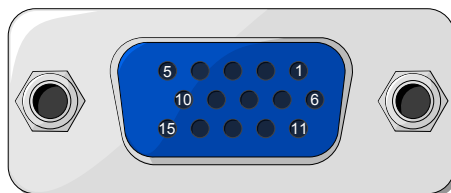


Figure 13: VGA port diagram

Pin	Signal	Pin	Signal	Pin	Signal
1	Red	6	GND	11	NC
2	Green	7	GND	12	DDC DAT
3	Blue	8	GND	13	H-SYNC
4	NC	9	NC	14	V-SYNC
5	GND	10	GND	15	DDC CLK

Table 7: VGA port pinout

2.9. Mini HDMI® Port

The integrated 19-pin mini HDMI® port uses an HDMI® Type C connector as defined in the HDMI® specification. The mini HDMI® port is for connecting to HDMI® displays. The pinout of the mini HDMI® port is shown below.



Figure 14: Mini HDMI® port diagram

Pin	Signal
1	TMDS Data2 Shield
2	TMDS Data2+
3	TMDS Data2–
4	TMDS Data1 Shield
5	TMDS Data1+
6	TMDS Data1–
7	TMDS Data0 Shield
8	TMDS Data0+
9	TMDS Data0–
10	TMDS Clock Shield
11	TMDS Clock+
12	TMDS Clock–
13	DDC/CEC Ground
14	CEC
15	SCL
16	SDA
17	Reserved (N.C. on device)
18	+5V Power
19	Hot Plug Detect

Table 8: Mini HDMI® port pinout

3. Hardware Installation

This chapter provides you with information about hardware installation procedures. It is recommended to use a grounded wrist strap before handling computer components. Electrostatic discharge (ESD) can damage some components.

3.1. Installing the DDR3 SODIMM memory

Step 1

On the bottom side of the ARTiGO A1250, remove the two screws from the memory access cover. Then gently lift up the cover.

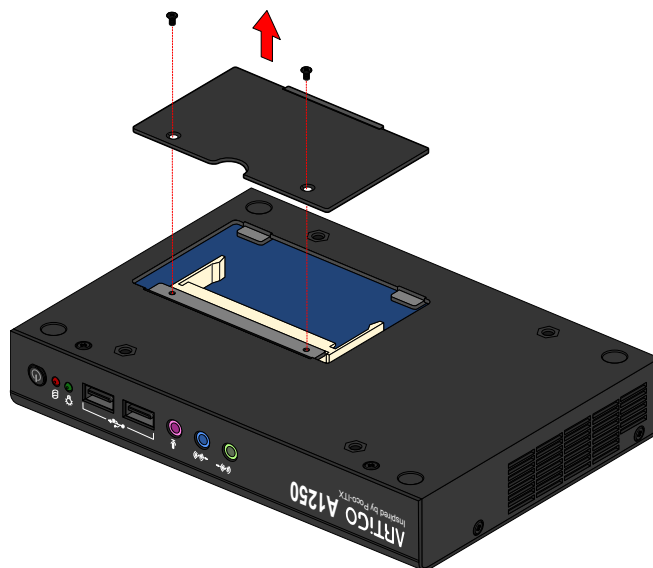


Figure 15: Removing the memory access cover

Step 2

Align the notch on the SODIMM memory module with the protruding wedge on the SODIMM slot. Gently insert the SODIMM memory module at a 30 degrees angle. Push down the SODIMM memory until the locking clips lock the memory module into place. There will be a slight tension as the SODIMM memory module is being locked.

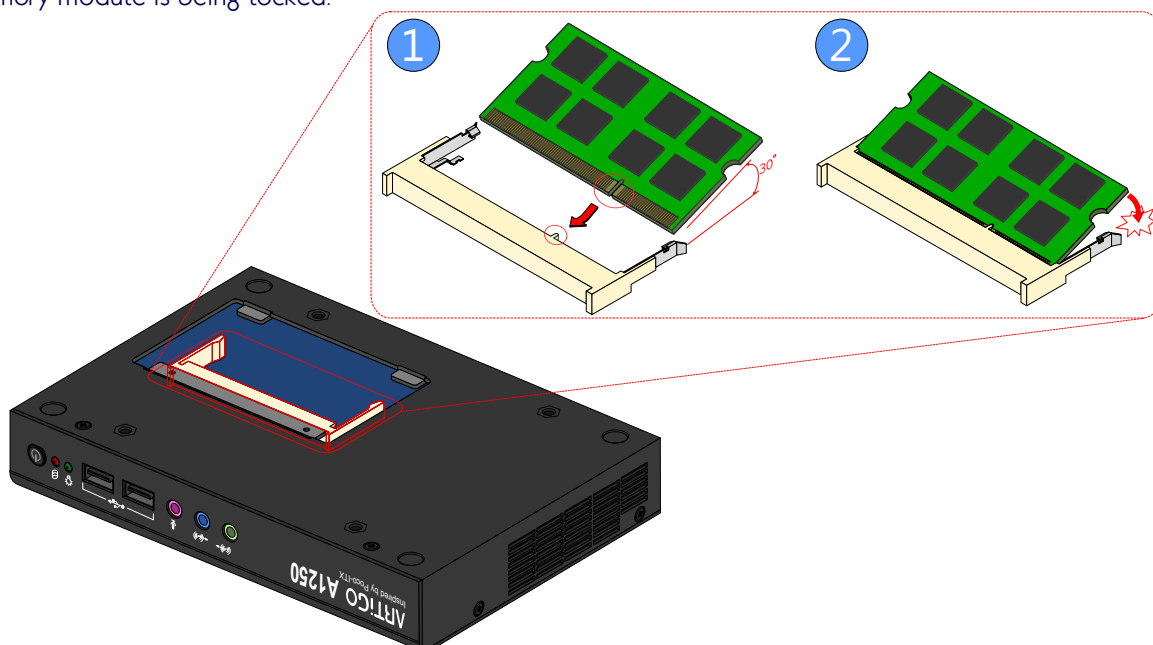


Figure 16: Installing SODIMM memory module

Step 3

Flip over the memory access cover and remove the protective plastic cover of the pre-installed memory thermal pad.

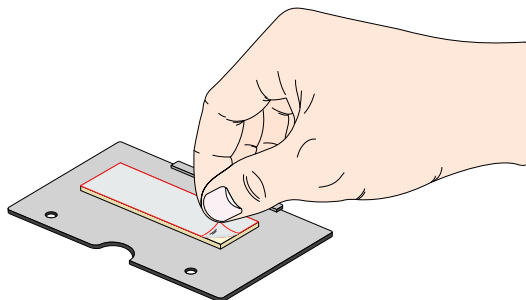


Figure 17: Removing the memory thermal pad protective cover

Step 4

Reinstall the memory access cover and secure it with two screws.

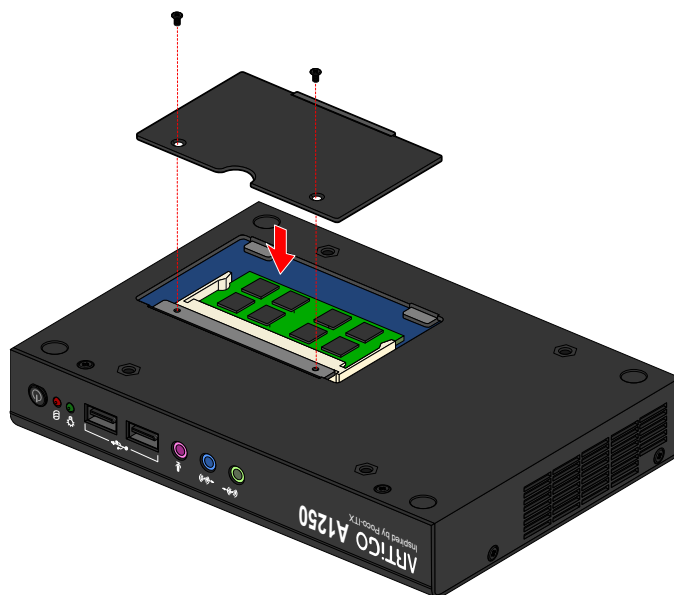


Figure 18: Reinstalling the memory access cover

3.2. Removing the DDR3 SODIMM Memory

Step 1

To disengage the locking clips, push the locking clips horizontally outward away from the SODIMM memory module.

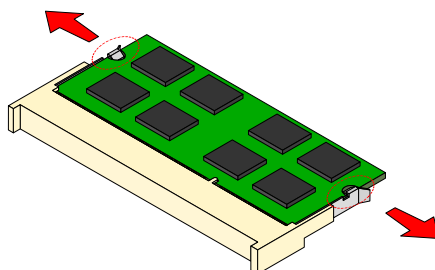


Figure 19: Disengaging the SODIMM locking clips

Step 2

When the locking clips have cleared, the SODIMM memory module will automatically pop up to the 30 degrees angle, next remove the memory module.

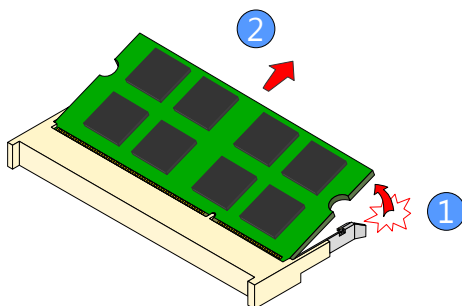


Figure 20: Removing the memory module

3.3. Installing 2.5" SATA Hard Disk Drive

Step 1

Remove the six screws of the top cover from both sides and bottom side of the chassis. Slightly pull the cover horizontally then gently pull up the cover.

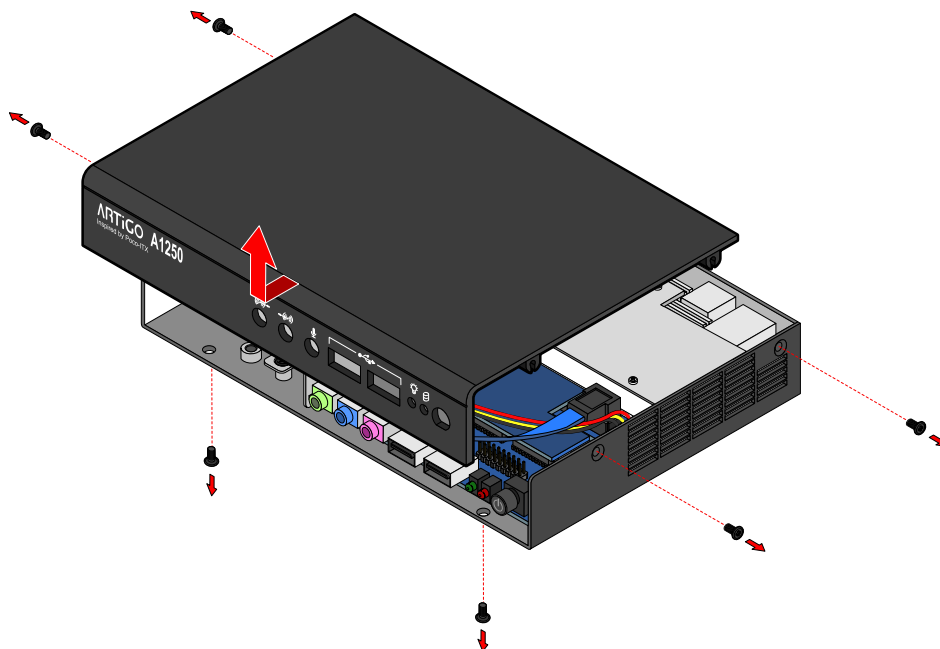


Figure 21: Removing the top cover

Step 2

Unscrew the hard disk bracket tray.

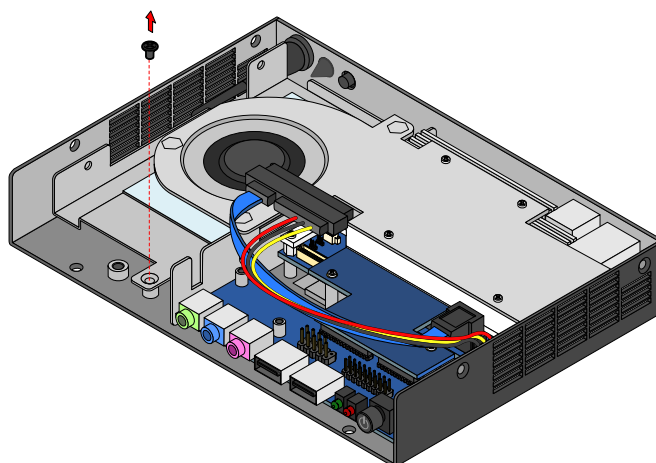


Figure 22: Unscrewing the hard disk bracket tray

Step 3

Pull out the hard disk bracket tray. Then remove the cover plastic of the hard disk thermal pad.

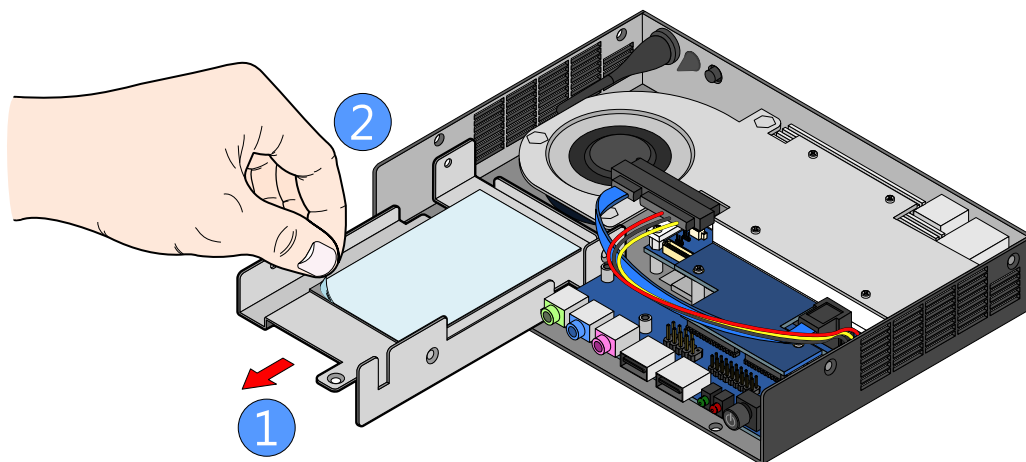


Figure 23: Removing the hard disk thermal pad protective cover

Step 4

Flip over the hard disk drive and install it to the hard disk bracket tray over the thermal pad. Make sure the plastic cover of the thermal pad has been removed before installing the hard disk. Then secure the hard disk with four screws.

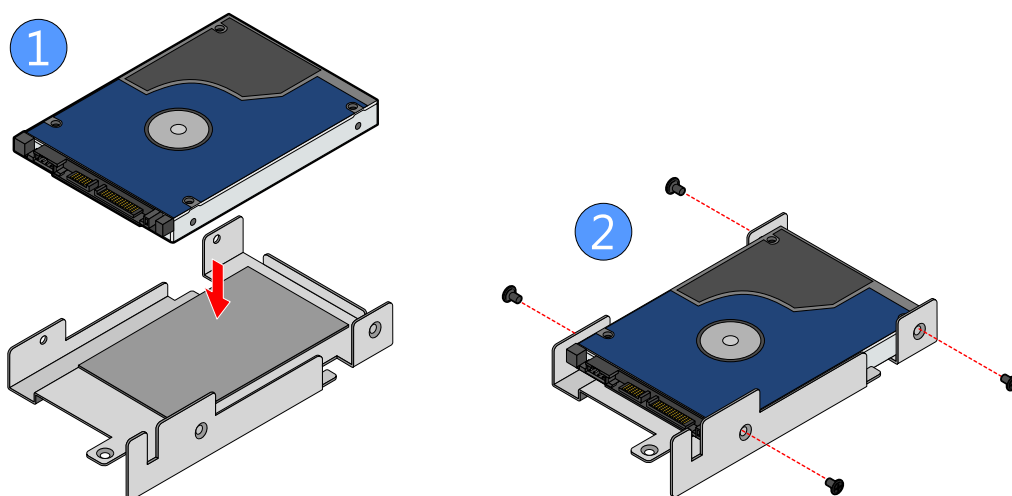


Figure 24: Installing the 2.5" SATA hard disk drive

Step 5

Gently slide back the bracket tray with the 2.5" hard disk. Ensure that no wiring will be trapped while reinstalling the bracket tray. Secure the bracket tray with screw.

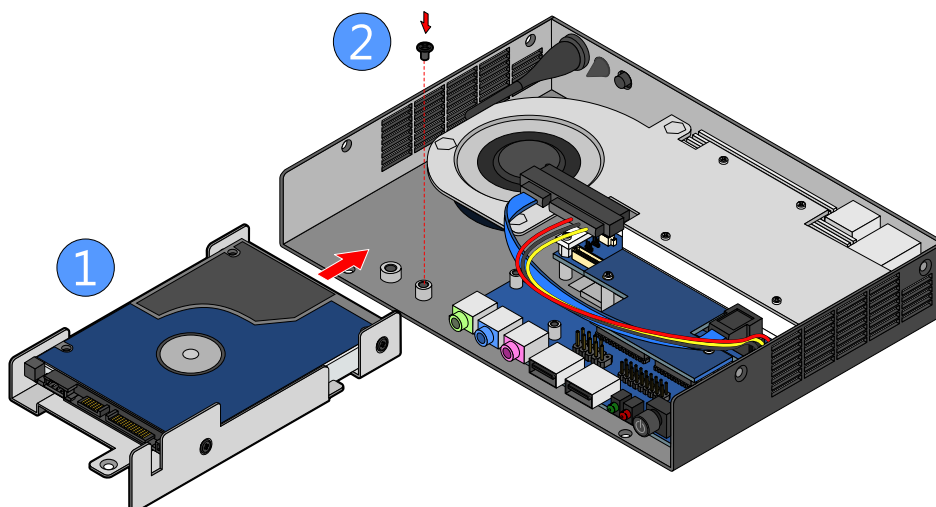


Figure 25: Reinstalling the hard disk drive tray

Step 6

Connect the SATA cable (power and data) to the hard disk drive.

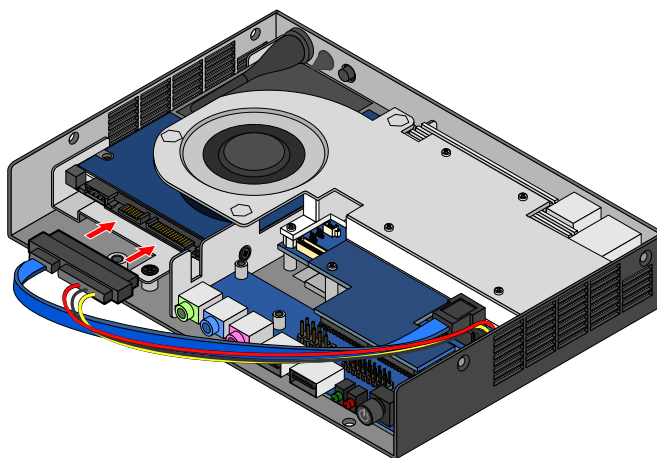


Figure 26: Connecting the SATA cable

3.4. Installing the Rubber Feet

Step 1

Locate the area where to install the rubber feet.

Step 2

Attach carefully each rubber foot. Firmly press it down to ensure the rubber foot is properly in place.

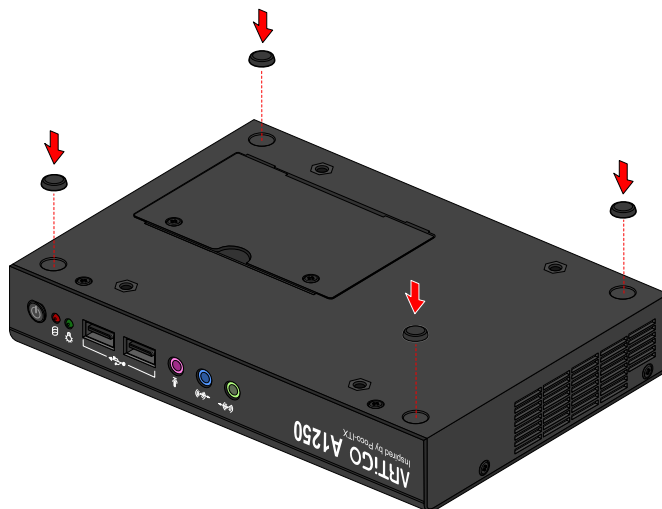


Figure 27: Installing the rubber feet

3.5. Installing the DC Plug Strap Holder

Step 1

Prepare the DC plug strap holder. The DC plug strap holder consists of two parts: Slide strap tie and Plug holder.

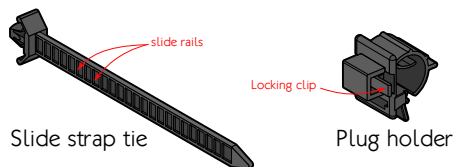


Figure 28: DC plug strap holder



Note:

The Plug holder has locking clip that controls the locking and releasing. Slightly pulling the locking clip will unlock the plug holder from the rail of slide strap tie.

Step 2

Remove the DC plug strap holder hole cover (rubber) from the back panel. The hole is located between the antenna hole and DC-in jack.



Figure 29: Removing the DC plug strap holder hole cover

Step 3

Insert the strap cable tie into the hole. Ensure the strap cable tie is fully inserted and the slide rails are facing the left side as indicated in the figure.



Figure 30: Removing the DC plug strap holder hole cover

Step 4

Attach the plug holder to the DC plug cable.

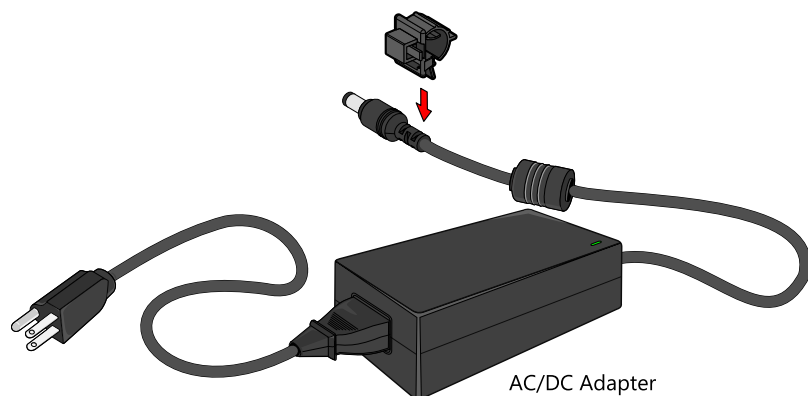


Figure 31: Installing the plug holder

Step 5

Insert the slide strap tie into the side of the plug holder.

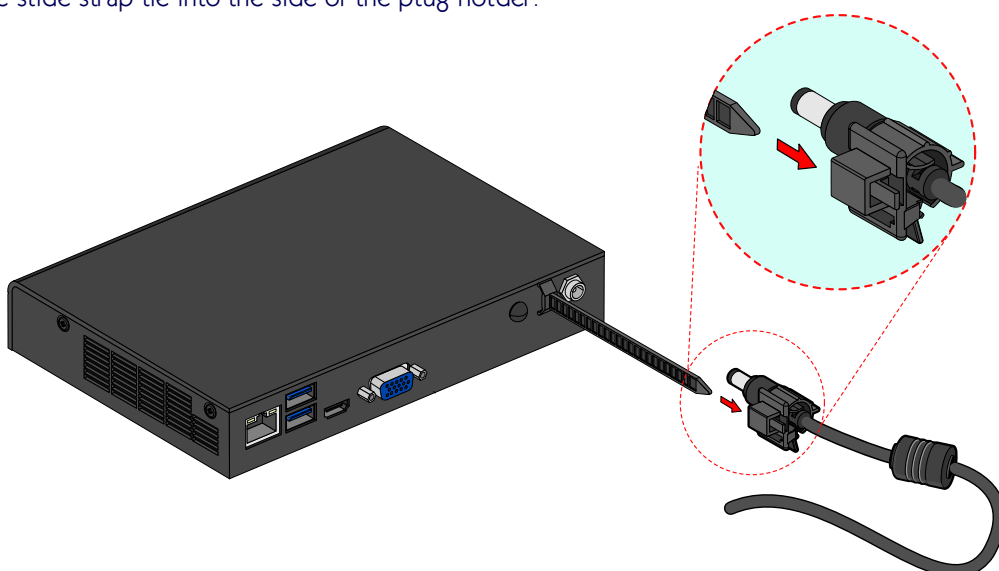


Figure 32: Inserting the slide strap tie

Step 6

Slide in the plug holder deeply until the DC plug reaches the DC-in jack. Then connect the DC plug into the DC-in jack.

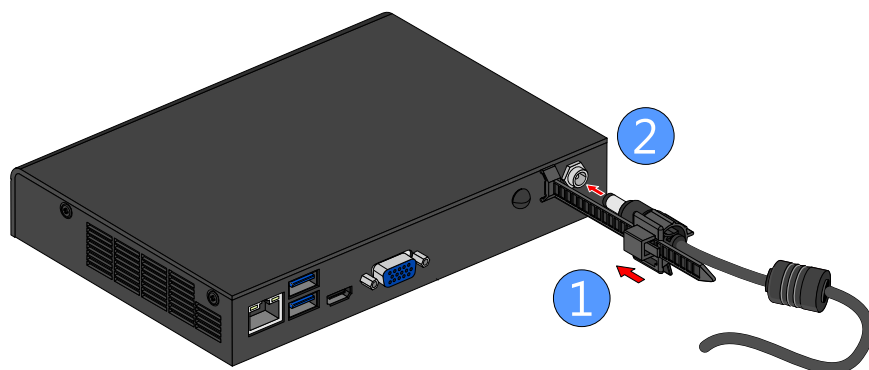


Figure 33: Connecting the DC plug

4. BIOS Setup Utility

4.1. Entering the BIOS Setup Utility

Power on the computer and press **Delete** during the beginning of the boot sequence to enter the BIOS Setup Utility. If the entry point has passed, restart the system and try again.

4.2. Control Keys

Up	Move up one row
Down	Move down one row
Left	Move to the left in the navigation bar
Right	Move to the right in the navigation bar
Enter	Access the highlighted item / Select the item
Esc	Jumps to the Exit screen or returns to the previous screen
+ ¹	Increase the numeric value
- ¹	Decrease the numeric value
F1	General help ²
F2	Previous value
F3	Load optimized defaults
F4	Save all the changes and exit



Notes:

1. Must be pressed using the 10-key pad.
2. The General help contents are only for the Status Page and Option Page setup menus.

4.3. Getting Help

The BIOS Setup Utility provides a “**General Help**” screen. This screen can be accessed at any time by pressing **F1**. The help screen displays the keys for using and navigating the BIOS Setup Utility. Press **Esc** to exit the help screen.

4.4. System Overview

The System Overview screen is the default screen that is shown when the BIOS Setup Utility is launched. This screen can be accessed by traversing the navigation bar to the “Main” label.

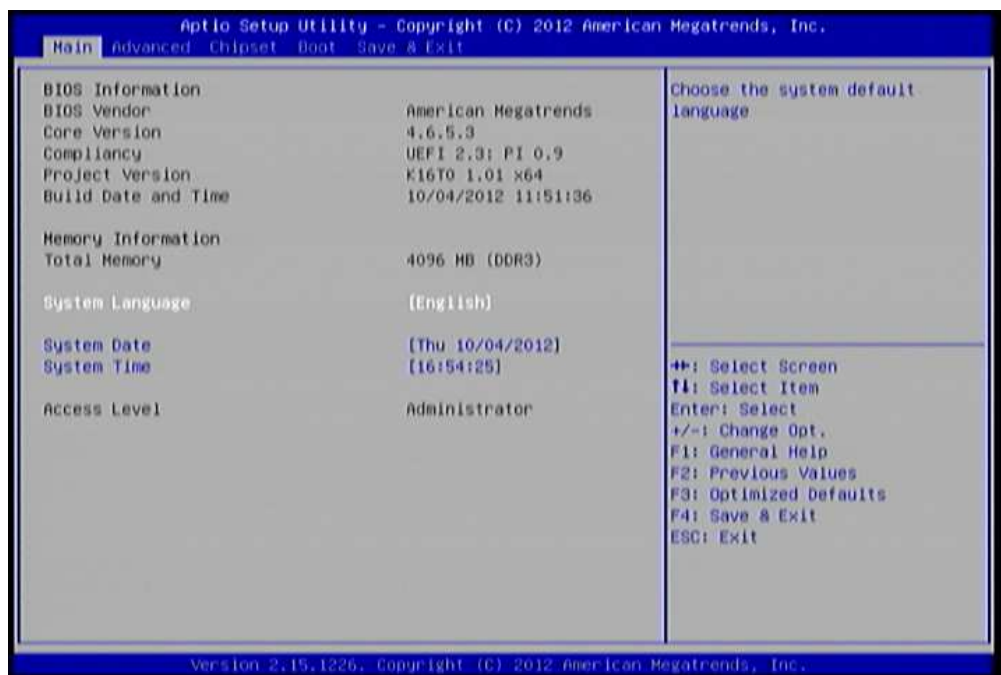


Figure 34: Illustration of the Main menu screen

4.4.1. BIOS Information

The content in this section of the screen shows the information about the vendor, the Core version, UEFI specification version, the project version and date & time of the project build.

4.4.2. Memory Information

This section shows the amount of memory that is installed on the hardware platform.

4.4.3. System Language

This option allows the user to configure the language that the user wants to use.

4.4.4. System Date

This section shows the current system date. Press **Tab** to traverse right and **Shift+Tab** to traverse left through the month, day, and year segments. The **+** and **-** keys on the number pad can be used to change the values. The weekday name is automatically updated when the date is altered. The date format is [Weekday, Month, Day, Year].

4.4.5. System Time

This section shows the current system time. Press **Tab** to traverse right and **Shift+Tab** to traverse left through the hour, minute, and second segments. The **+** and **-** keys on the number pad can be used to change the values. The time format is [Hour : Minute : Second].

4.5. Advanced Settings

The Advanced Settings screen shows a list of categories that can provide access to a sub-screen. Sub-screen links can be identified by the preceding right-facing arrowhead.



Figure 35: Illustration of the Advanced Settings screen

The Advanced Settings screen contains the following links:

- ACPI Settings
- S5 RTC Wake Settings
- CPU Configuration
- SATA Configuration
- F81801 H/W Monitor
- Clock Generator Configuration
- Onboard Configuration

4.5.1. ACPI Settings

ACPI grants the operating system direct control over system power management. The ACPI Configuration screen can be used to set a number of power management related functions.



Figure 36: Illustration of the ACPI Settings screen

4.5.1.1. Enable Hibernation

Enable/disable system ability to Hibernate.

4.5.1.2. ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the SUSPEND button is selected. Available options are: Suspend Disabled / S1 only (CPU Stop Clock) / S3 only (Suspend to RAM) / Both S1 and S3 available for OS to choose from.

4.5.2. S5 RTC Wake Settings

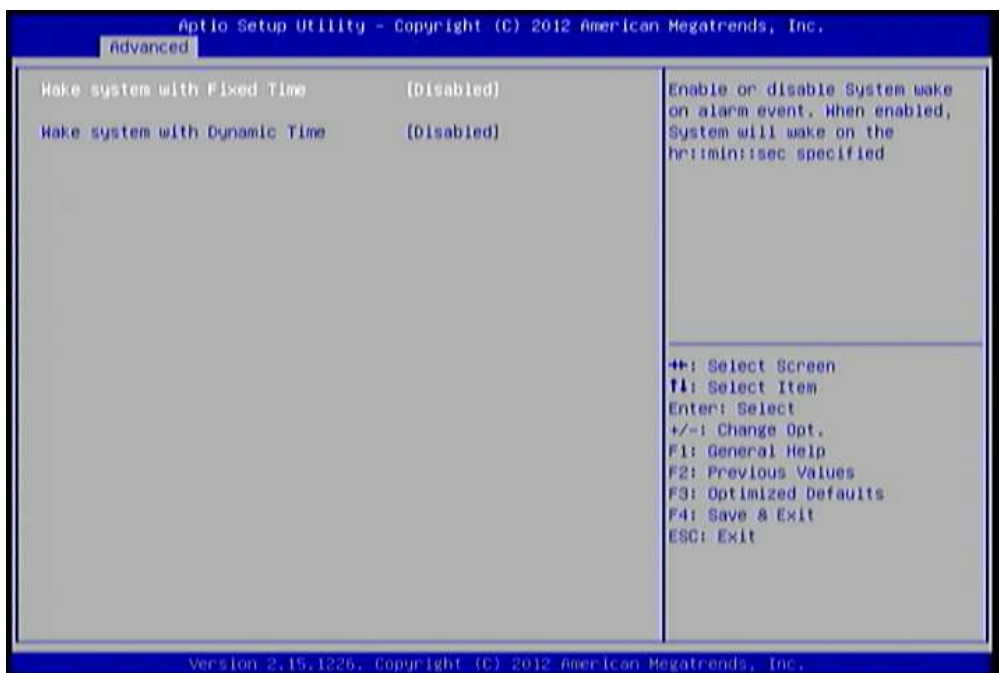


Figure 37: Illustration of the S5 RTC Wake Settings screen

4.5.2.1. Wake system with Fixed Time

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

4.5.2.2. Wake system with Dynamic Time

Enable or disable Wake system with Dynamic Time.

4.5.3. CPU Configuration

The CPU Configuration screen shows detailed information about the built-in processor. In addition to the processor information, the thermal controls can be set.

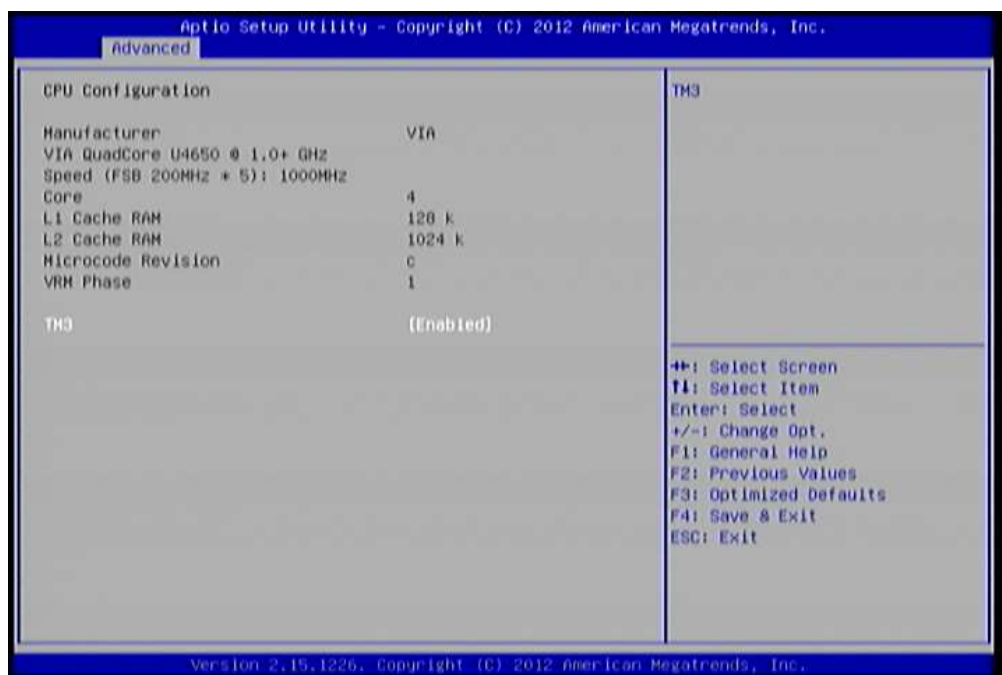


Figure 38: Illustration of CPU Configuration screen

4.5.3.1. TM3

The TM3 Function has two settings: Disabled and Enabled. When the setting is changed to “Disabled”, the CPU’s built-in thermal sensor will not function. When the setting is changed to “Enabled”, the thermal sensor will automatically adjust the CPU ratio and V CORE to prevent the CPU from overheating.

4.5.4. SATA Configuration

The SATA Configuration screen allows the user to view and configure the settings of the SATA configuration settings.



Figure 39: Illustration of SATA Configuration screen

4.5.4.1. SATA Mode

This option allows the user to manually configure SATA controller for a particular mode.

IDE Mode

Set this value to change the SATA to IDE mode.

AHCI Mode

Set this value to change the SATA to AHCI mode.

4.5.5. PC Health Status

The PC Health Status screen has no editable fields. The system temperature is taken from an optional sensor that is connected to the J5 pin header.

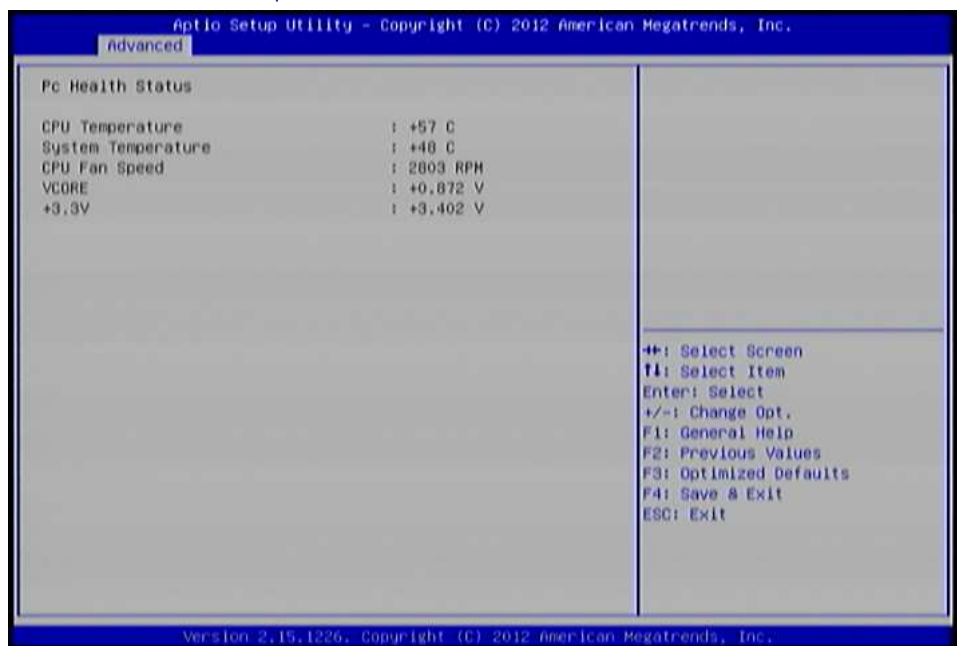


Figure 40: Illustration of PC Health Status screen

4.5.6. Clock Generator Configuration

The Clock Generator Configuration screen enables access to the Spread Spectrum Setting feature.



Figure 41: Illustration of Clock Generator Configuration screen

4.5.6.1. CPU Spread Spectrum

The Spread Spectrum Setting feature enables the BIOS to modulate the clock frequencies originating from the mainboard. The settings are in percentages of modulation. Higher percentages result in greater modulation of clock frequencies. This feature has 3 options: Disabled, +0.25% and -0.5%.

4.5.6.2. PCIe Spread Spectrum

Select PCIe Spread Spectrum. This feature has 2 options: Disabled and -0.5%.

4.5.7. OnBoard Device Configuration

The OnBoard Device Configuration screen has the following features.



Figure 42: Illustration of OnBoard Device Configuration screen

4.5.7.1. OnBoard LAN Enable

The OnBoard LAN Enable feature determines whether the onboard LAN controller will be used or not.

4.5.7.2. EuP/ErP Lot6 support

The EuP/ErP Lot6 Support feature enables the BIOS to reduce the power draw to less than 1W when the system is in standby mode. This feature has two options: enabled and disabled.

4.5.7.3. S5 Wakeup On LAN

The S5 Wakeup On LAN feature enables the BIOS to allow remote wake-up from the S5 power off state through the PCI bus.

4.5.7.4. Eup/Erp Lot6 Support

The EuP/ErP Lot6 Support feature enables the BIOS to reduce the power draw to less than 1W when the system is in standby mode. This feature has two options: enabled and disabled.

4.6. Chipset Settings

The Chipset Settings screen shows a list of categories that can provide access to a sub-screen. Sub-screen links can be identified by the preceding right-facing arrowhead.



Figure 43: Illustration of Chipset Settings screen

The Chipset Settings screen contains the following links:

- DRAM Configuration
- Video Configuration
- PMU-ACPI Configuration
- Others Configuration

4.6.1. DRAM Configuration

The DRAM Configuration screen has two features for controlling the system DRAM. All other DRAM features are automated and cannot be accessed.

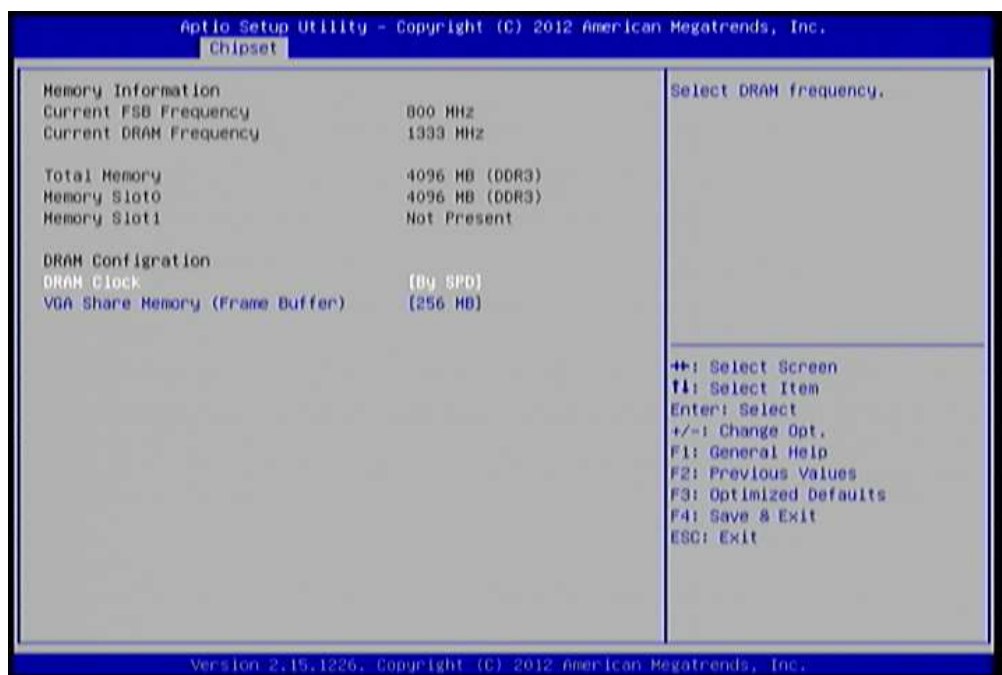


Figure 44: Illustration of DRAM Configuration screen

4.6.1.1. DRAM Clock

The DRAM Clock option enables the user to determine how the BIOS handles the memory clock frequency. The memory clock can either be dynamic or static. This feature has eleven options.

By SPD

By SPD option enables the BIOS to select a compatible clock frequency for the installed memory.

400 MHz

The 400 MHz option forces the BIOS to be fixed at 800 MHz for DDR3 memory modules.

533 MHz

The 533 MHz option forces the BIOS to be fixed at 1066 MHz for DDR3 memory modules.

566 MHz

The 566 MHz option forces the BIOS to be fixed at 1132 MHz for DDR3 memory modules.

600 MHz

The 600 MHz option forces the BIOS to be fixed at 1200 MHz for DDR3 memory modules.

633 MHz

The 633 MHz option forces the BIOS to be fixed at 1266 MHz for DDR3 memory modules.

667 MHz

The 667 MHz option forces the BIOS to be fixed at 1334 MHz for DDR3 memory modules.

700 MHz

The 700 MHz option forces the BIOS to be fixed at 1400 MHz for DDR3 memory modules

733 MHz

The 733 MHz option forces the BIOS to be fixed at 1466 MHz for DDR3 memory modules

766 MHz

The 766 MHz option forces the BIOS to be fixed at 1532 MHz for DDR3 memory modules

800 MHz

The 800 MHz option forces the BIOS to be fixed at 1600 MHz for DDR3 memory modules

4.6.1.2. VGA Share Memory (Frame Buffer)

The VGA Share Memory feature enables the user to choose the amount of the system memory to reserve for use by the integrated graphics controller. The selections of memory amount that can be reserved are 256MB, 512MB and 1024MB.

4.6.2. Video Configuration

The Video Configuration screen has features for controlling the integrated graphics controller in the VX11H chipset.

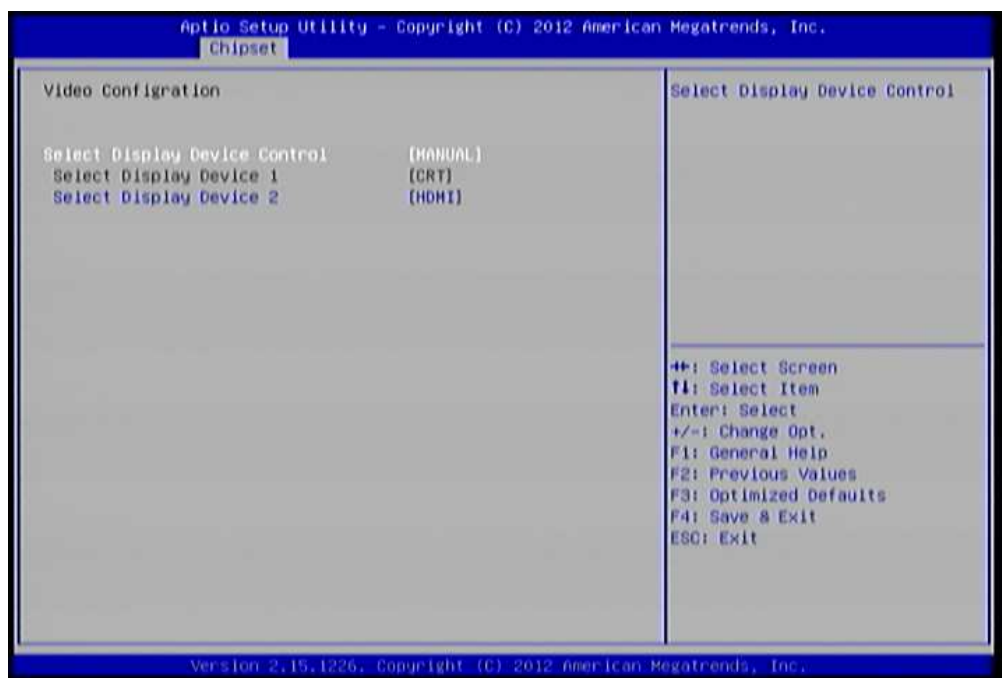


Figure 45: Illustration of Video Configuration screen

4.6.2.1. Select Display Device Control

Available selections are: Auto and Manual.

4.6.2.2. Select Display Device 1 and 2

The Select Display Device feature enables the user to choose a specific display interface. This feature has two options: CRT and HDMI. If both Select Display Device 1 and Select Display Device 2 are set to the same interface, then any display device connected to the other interface will not function. For example, if both Select Display 1 and 2 are set to CRT, then no data will be sent to the HDMI port.

4.6.3. PMU_ACPI Configuration

The PMU_ACPI Configuration screen can be used to set a number of power management related functions.



Figure 46: Illustration of PMU_ACPI Configuration screen

4.6.3.1. Other Control

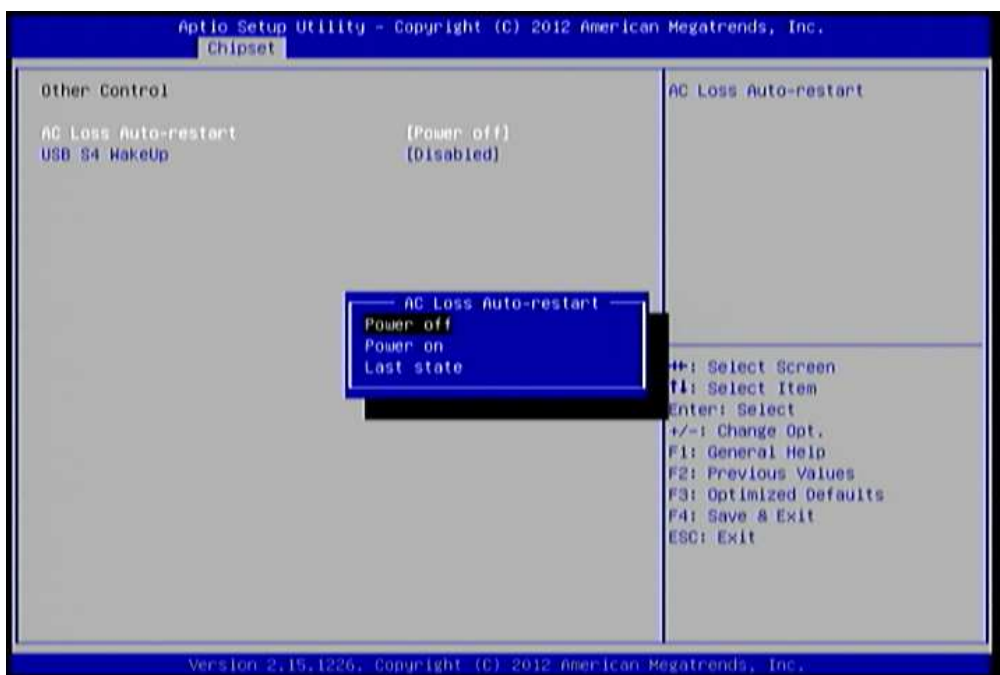


Figure 47: Illustration of Other Control screen

4.6.3.1.1. AC Loss Auto-restart

AC Loss Auto-restart defines how the system will respond after AC power has been interrupted while the system is on. There are three options.

Power Off

The Power Off option keeps the system in an off state until the power button is pressed again.

Power On

The Power On option restarts the system when the power has returned.

Last State

The Last State option restores the system to its previous state when the power was interrupted.

4.6.3.1.2. USB S4 WakeUp

The USB S4 WakeUp enables the system to resume through the USB device port from S4 state. There are two options: "Enabled" or "Disabled".

4.6.4. Others Configuration

The Others Configuration screen can be used to set Watchdog Timer Configuration and Keyboard/Mouse Wakeup Configuration.



Figure 48: Illustration of Others Configuration screen

4.6.4.1. WATCHDOG Timer Enable

When this feature is enabled, an embedded timing device automatically prompts corrective action upon system malfunction detection.

4.6.4.2. Keyboard/Mouse Wakeup Control

When this feature is enabled, pressing any key of the keyboard or moving the mouse can wake up the system from suspend.

4.7. Boot Settings

The Boot Settings screen has a single link that goes to the **Boot Configuration** and **Boot Option Priorities** screens.

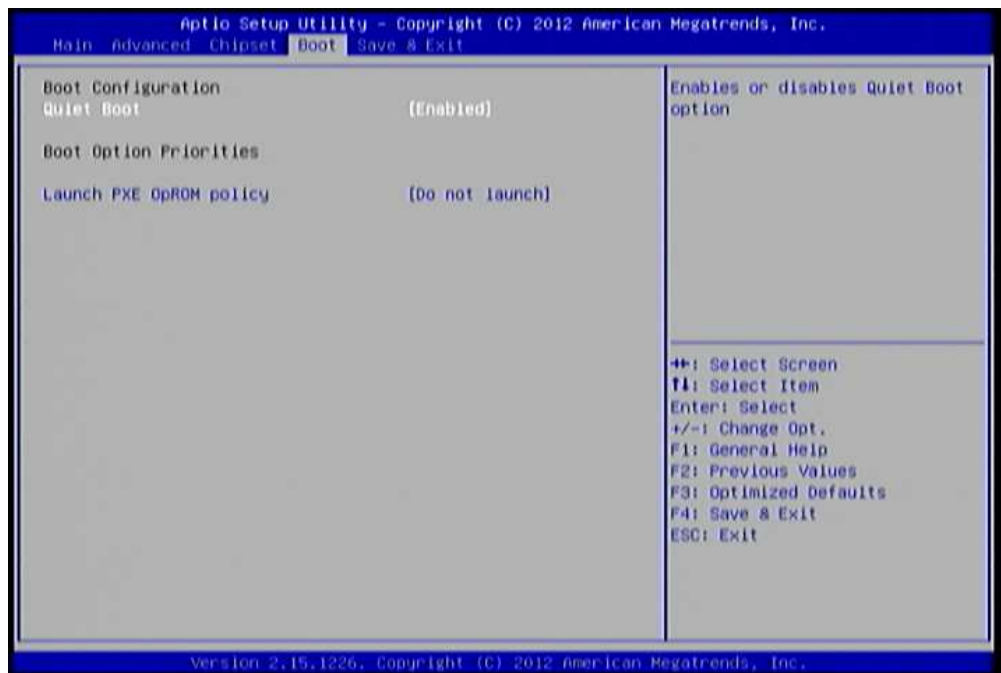


Figure 49: Illustration of Boot Settings screen

4.7.1. Boot Configuration

The Boot Settings Configuration screen has several features that can be run during the system boot sequence.

4.7.1.1. Quiet Boot

The Quiet Boot feature hides all of the Power-on Self Test (POST) messages during the boot sequence. Instead of the POST messages, the user will see an OEM logo. This feature has two options: enabled and disabled.

4.7.2. Boot Option Priorities

The Boot Option Priorities screen lists all bootable devices.

4.7.2.1. Launch PXE OpROM policy

Do not launch

Prevent the option for Legacy Network Device.

Legacy only

Allow the option for Legacy Network Device.

4.8. Save & Exit

The Save & Exit Configuration screen has the following features:

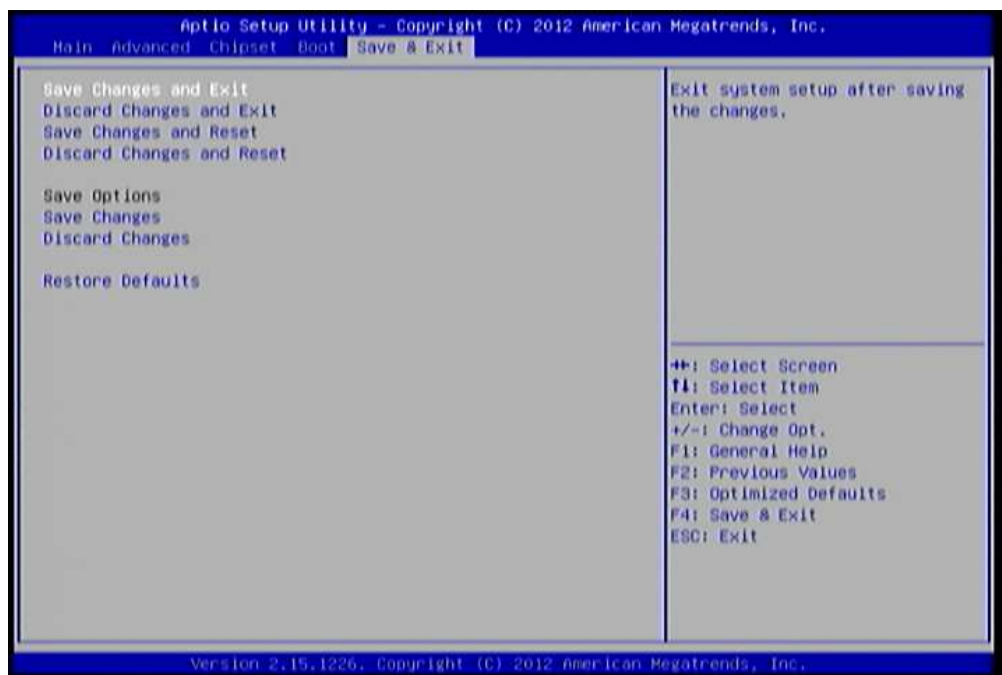


Figure 50: Illustration of Save & Exit screen

4.8.1. Save Changes and Exit

Save all changes to the BIOS and exit the BIOS Setup Utility. The “F4” hotkey can also be used to trigger this command.

4.8.2. Discard Changes and Exit

Exit the BIOS Setup Utility without saving any changes. The “Esc” hotkey can also be used to trigger this command.

4.8.3. Save Changes and Reset

Save all changes to the BIOS and reboot the system. The new system configuration parameters will take effect.

4.8.4. Discard Changes and Reset

This command reverts all changes to the settings that were in place when the BIOS Setup Utility was launched.

4.8.5. Save Options

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

4.8.6. Save Changes

Save system configuration and continue. For some of the options it required to reset the system to take effect.

4.8.7. Discard Changes

Undo the previous changes.

4.8.8. Restore Defaults

Restore default values for all setup options.

5. Driver Installation

5.1. Microsoft Driver Support

The ARTiGO A1250 is compatible with Microsoft operating systems. The latest Windows drivers can be downloaded from the VIA website at <http://www.viatech.com>

For embedded operating systems, the related drivers can be found in the VIA website at <http://www.viatech.com>

5.2. Linux Driver Support

The ARTiGO A1250 mainboard is highly compatible with many Linux distributions.

Support and drivers are provided through various methods including:

- Drivers provided by VIA
- Using a driver built into a distribution package
- Visiting <http://www.viatech.com> for the latest updated drivers
- Installing a third party driver (such as the ALSA driver from the Advanced Linux Sound Architecture project for integrated audio)

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. Contact VIA to submit a request.

Appendix A. Installing Wireless Accessories

This section provides information on how to install the wireless accessories to provide Wi-Fi connection.

A.1. Installing the VNT9721 USB Wi-Fi Dongle

Step 1

Locate a USB 2.0 or USB 3.0 port on the panel I/O.

Step 2

Insert the VNT9271 USB Wi-Fi dongle in one of the USB 2.0 or USB 3.0 ports.

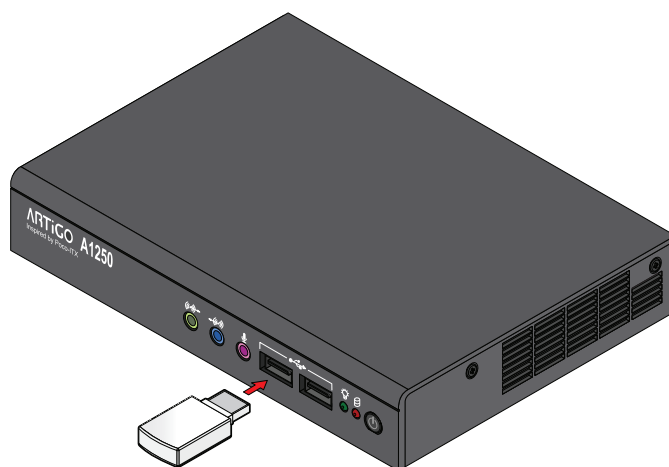


Figure 51: Installing the VNT9721 USB Wi-Fi Dongle

A.2. Installing the EMIO-1533 USB Wi-Fi Module

Step 1

Mount the EMIO-1533 module on the P910-C daughterboard. Align the module's mounting holes with the standoff screw hole then secure it with two screws.

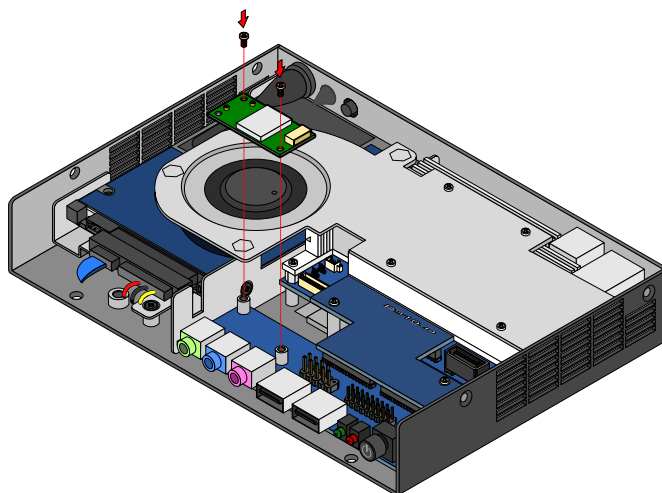


Figure 52: Installing EMIO-1533 module

Step 2

Remove the P910-D bridge board connector.

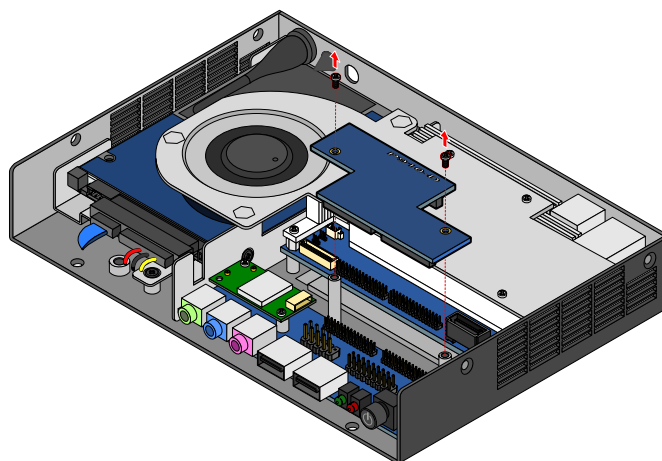


Figure 53: Removing the P910-D bridge board connector

Step 3

Connect one end of the USB Wi-Fi cable to the EMIO-1533 module, and then connect the other end of the cable to the P910-C daughterboard. The USB Wi-Fi cable must be laid out underneath the P910-D bridge board connector. Reinstall the P910-D bridge board connector and secure it with two screws.

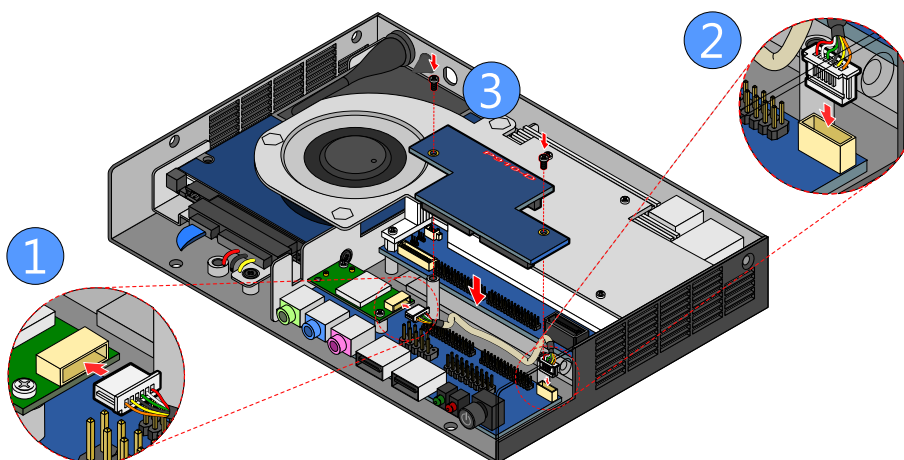


Figure 54: Connecting USB Wi-Fi cable and reinstalling the P910-D bridge board connector



Reminder:

Make sure to install the P910-D bridge board connector in the correct orientation. The top marking "P910-D" should be on the top side as indicated in the figure above.

Step 4

Remove the Wi-Fi antenna hole cover from the back panel. To facilitate removing the cover, use a pair of needle-nose pliers to depress both locking clips simultaneously. Install the Wi-Fi module and secure it with two screws.

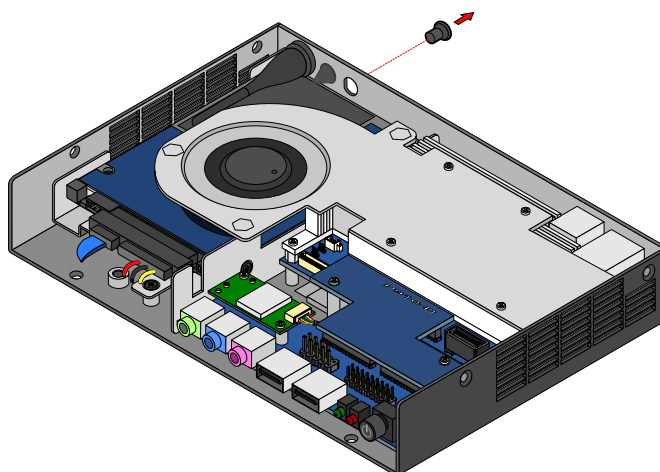


Figure 55: Removing the Wi-Fi antenna hole cover

Step 5

Insert the Wi-Fi antenna cable into the antenna hole from the inside of the chassis. Insert the washer, fasten it with the nut and install the external antenna. Connect the other end of the Wi-Fi antenna cable to the micro-RF connector labeled "IPEX" on the EMIO-1533 module.

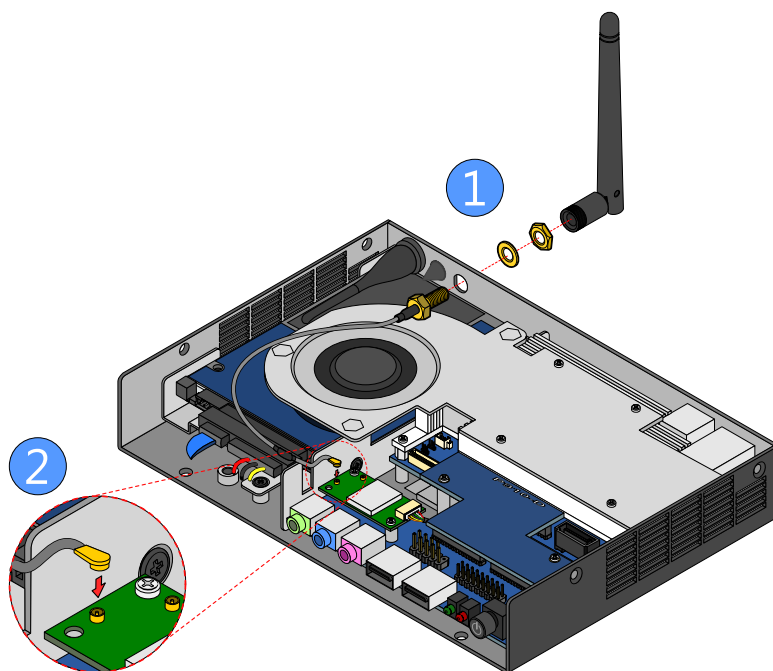


Figure 56: Installing the Wi-Fi antenna



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