DS-380D Series
Fanless, R-452L,
mSATA, Half-Slim SSD, DC input

User's Manual

CONTEC CO.,LTD.

Check Your Package

Thank you for purchasing the CONTEC product.
The product consists of the items listed below.
Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List

Name	DS-380D-DC741D, DS-380D-DC741E, DS-380D-DC7512, DS-380D-DC7516, DS-380D-DC7517, DS-380D-DC7518 Pcs.
The main body	1
The attachment fittings	2*1
USB removal prevention fitting (base)	1
USB removal prevention fitting (angle)	3
Washer assembled screw (M3 x 6)	3
Washer assembled screw (M3 x 8)	2
Power supply connector complete set	
Power connector	1
Contact	4
Product guide	1
IPC Precaution List	1
Warranty Certificate	1
Serial number label	1
Royalty consent contract	1
Setup Procedure Document	1
Recovery Media *2	1
AC adapter set (PWA-84AWD1)*3	1
Dust cover complete set	
COM Dust Cover	1*1
USB Dust Cover	3*1
LAN Dust Cover	2*1
DVI Dust Cover	2*1
Audio Dust Cover	2*1

*1 It is attached to the main body.

*2 Please confirm latest information on the CONTEC homepage.

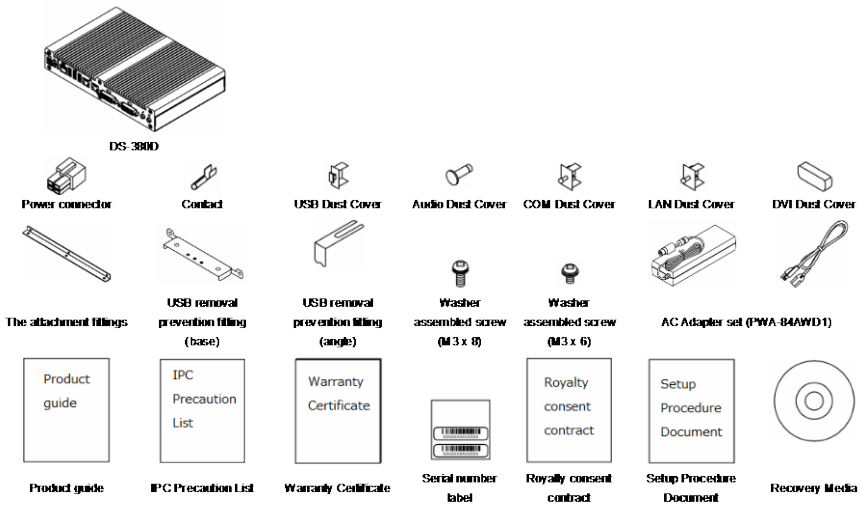
*3 The "PWA-84AWD1" optional product is included in the package.

For details, see the "PWA-84AWD1" user's manual, which can be downloaded from the CONTEC website.

Do not use the "PWA-84AWD1" with any products other than this product.

Only use the included AC power cable with the included AC adapter.

Product Configuration Image



* See the Product Configuration List to check if all the components are included for the specified number of units.

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Table of Contents

1. Introduction

About the Product

This product is a signage STB that is equipped with a 1.6 GHz, R-452L AMD Embedded R-Series Quad-Core APU (Accelerated Processing Unit). The improved graphics capabilities of the APU make it possible to smoothly play full-HD videos through the DVI-I interface.
For storage, this product is standard-equipped with an 8GB mSATA drive or with a 32GB Half-Slim SSD drive. The body is so compact and supports SATA interface which can transport data at high speed. It enables you to read high-quality movie, store so big data and transport data at high bit rate.

DS Series are the products assumed to be used at ordinary environment and market as "Digital Signage".Operating environment condition, supply period, maintenance period and other conditions are different from ones of our industrial products (IPC Series, BOX-PC, PT-Series and others).For details, please consult our retailer.

This product is available in the following 6 models :
- Windows® Embedded 8.1 Industry Pro 64bit (Japanese version) installed model
  DS-380D-DC741D (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*1
- Windows® Embedded 8.1 Industry Pro 64bit (English version) installed model
  DS-380D-DC741E (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*1
- Windows® Embedded Standard 7 32bit (Japanese version) installed model
  DS-380D-DC7512 (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*2
- Windows® Embedded Standard 7 32bit (English version) installed model
  DS-380D-DC7516 (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*2
- Windows® Embedded Standard 7 64bit (Japanese version) installed model
  DS-380D-DC7517 (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*2
- Windows® Embedded Standard 7 64bit (English version) installed model
  DS-380D-DC7518 (Memory 4GB, mSATA 8GB, Half-Slim SSD 32GB)*2

*1: The OS is installed on the Half-Slim SSD drive.
*2: The OS is installed on the mSATA.

Features

- Equipped with DVI output to support high-definition video

This product is standard-equipped with two DVI output ports that support displays of 1920 × 1080 pixels. You can create dual-screen applications just by using this product as a standalone device.

- Equipped with a high-performance Quad-Core APU

This product has a built-in graphics processing unit (GPU) and is equipped with a 1.60GHz, R-452L AMD Embedded APU. It supports applications which require high-speed processing.

- Discrete GPU-quality graphic processing

This product has APU that is equipped with GPU (AMD Radeon HD 7600G) that features discrete GPU-quality. It supports DirectX 11 and OpenCL™1.1

- Fanless / slitless design that reduces maintenance work

This product has a completely spindleless design in which the CPU fan has been eliminated and mSATA and Half-Slim SSD drives have been used for storage. This eliminates concerns about the ingress of dust and other foreign matter into the product. By minimizing the use of parts that degrade over time, we have greatly reduced the cost of maintenance and inspection.

- Remote power management function to reduce operation tasks

This product supports timed/automated system start-up (iSmart). For example, it enables unattended operation, such as starting to show information of an establishment in unison at opening time. Also, it supports system start-up externally via network (Wake On LAN). It encourages significant labor saving in operation.

- Major types of peripherals are supported with rich interfaces

It has a variety of extended interface such as DVI-I x 2, 1000BASE-T x 2, USB3.0 x 3 and serial. This makes it possible to use this product in a variety of situations.

- Falling-off prevention tools and fixing clamps provided to avoid trouble caused by disconnected cable

The USB removal prevention fitting and cable clamp enable you to prevent disconnections of USB cables and other connectors that are not equipped with locking mechanisms, which enables you to prevent problems from occurring.

- Models available with Windows Embedded 8.1 Industry Pro and Windows Embedded Standard 7 installed

For Windows Embedded Standard installed model, it is possible to use the EWF*1 function of OS. It is designed for safety required for embedding purpose, for example, prohibiting unwanted writing to the mSATA or Half-Slim SSD with EWF function will relieve the concern about the writing limits to the mSATA or Half-Slim SSD and prevent an unintentional system alteration.

*1 EWF (Enhanced Write Filter) is a function specific to Windows Embedded Standard that protects the disk from being actually written by redirecting the writing to RAM.

- A wide range of power supplies (10.8 - 26.4VDC) supported

As the product supports a wide range of power (10.8 - 26.4VDC), it can be used in a variety of power environments. The separately available AC adapter adds support for 100VAC power.

Supported OS

- Windows® Embedded 8.1 Industry Pro 64bit Japanese/English
- Windows® Embedded Standard 7 32bit/64bit Japanese/English

Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

Web Site

Japanese http://www.contec.co.jp/
English http://www.contec.com/
Chinese http://www.contec.com.cn/

Latest product information

CONTEC provides up-to-date information on products.
CONTEC also provides product manuals and various technical documents in the PDF.

Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

Limited One-Year Warranty

CONTEC products are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.
Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.
This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original products. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization number (RMA) from the CONTEC group office where you purchased before returning any product.
* No product will be accepted by CONTEC group without the RMA number.

Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.

Safety Precautions

Understand the following definitions and precautions to use the product safely.

Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Caution on the DS-380D Series

Handling Precautions

⚠ DANGER

- Do not use the included AC adapter or the included AC power cable in combination with the AC adapter or AC power cable of another product.
  Do not use the included AC adapter and AC power cable with any products other than this product.
- Do not disassemble or modify the product or replace any of its parts. Doing so may lead to electric shock, fire, or product failures. In addition, CONTEC may not be able to provide servicing for the product if you modify it.
- Do not attempt to replace the battery as inappropriate battery replacement poses a risk of explosion.

⚠ WARNING

- Always check that the power supply is turned off before connecting or disconnecting power cables.
- This product is not intended for use in aerospace, space, nuclear power, medical equipment, or other applications that require a very high level of reliability. Do not use the product in such applications.
- If using this product in applications where safety is critical such as in railways, automotive, or disaster prevention or security systems, please contact your retailer.

⚠ CAUTION

- Do not use or store this product in a location exposed to high or low temperature that exceeds range of specification or susceptible to rapid temperature changes.
  Example: - Exposure to direct sun
  - In the vicinity of a heat source
- Do not use this product in extremely humid or dusty locations. It is extremely dangerous to use this product with its interior penetrated by water or any other fluid or conductive dust. If this product must be used in such an environment, install it on a dust-proof control panel, for example.
- Avoid using or storing this product in locations subject to shock or vibration that exceeds range of specification.
- Do not use this product in the vicinity of devices that generate strong magnetic force or noise. Such products will cause this product to malfunction.
- Do not use or store this product in the presence of chemicals.
- To clean this product, wipe it gently with a soft cloth dampened with either water or mild detergent. Do not use chemicals or a volatile solvent, such as benzene or thinner, to prevent pealing or discoloration of the paint.
- This product's case may become hot. To avoid being burned, do not touch that section while this product is in operation or immediately after turning off the power. Avoid installation in a location where people may come into contact with that section.
- CONTEC does not provide any guarantee for the integrity of data on storage device.
- Be sure to disconnect the power cable from the outlet before connecting cables to and disconnecting cables from the connectors and before configuring hardware settings such as switches.
- To prevent corruption of files, always shutdown the OS before turning off this product.
- CONTEC reserves the right to refuse to service a product modified by the user.
- In the event of failure or abnormality (foul smells or excessive heat generation), unplug the power cord immediately and contact your retailer.
- To connect with peripherals, use a grounded, shielded cable.
- When transporting the product, implement sufficient countermeasures to prevent the product from being directly subjected to vibrations and impacts.
- You cannot clear the BIOS settings of this product. If you change the BIOS settings and become unable to boot the computer, it will have to be repaired.
- If the battery needs to be replaced, the product will have to be repaired. In this situation, contact your retailer.
- When disposing of used batteries, do so properly as instructed by the local government.
- Component Life:
  (1) Battery---The internal calendar clock and CMOS RAM are backed by a Lithium primary battery. The backup time at a temperature of 25°C with the power disconnected is 10 years.

(2) mSATA,Half-Slim SSD ---This model uses a mSATA or Half-Slim SSD in the OS storage area.
The NandFlash can be rewritten 60,000 times or more for the mSATA drive and 3,000 times or more for the Half-Slim SSD drive.
As a reference value, the rewritable lifetime can be determined by the following calculation.
Rewritable lifetime (number of times) = ((capacity [MB] / management block size [MB]) × 60,000 times) / (number of management blocks rewritten each time)
Example: If a 4MB file is created on an 8GB mSATA drive and is rewritten once every 10 seconds:
Rewritable lifetime = ((8,012/2) × 60,000)) / 2 = 120,180,000 (number of times)
Lifetime = 120,180,000 / ((60/10) × 60 × 24 × 365)≒38 (year)
Example: If a 4MB file is created on an 32GB Half-Slim SSD drive and is rewritten once every 10 seconds:
Rewritable lifetime = ((30,533/2) × 3,000)) / 2 = 22,899,750 (number of times)
Lifetime = 22,899,750 / ((60/10) × 60 × 24 × 365)≒7 (year)

(3) AC adapter---The "PWA-84AWD1" optional product is included in the package. For details on the lifetime, see the "PWA-84AWD1" user's manual, which can be downloaded from the CONTEC website.

* Replacement of expendables is handled as a repair (there will be a charge).

* Component life is not guaranteed value but only referential value.

FCC PART 15 Class A Notice

NOTE

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 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 at his own expense.

WARNING TO USER

Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.

2. System Reference

Specification

Table 2.1. Functional Specification

Model		DS-380D-DCxxxx
CPU		AMD R-Series Quad-Core APU R-452L 1.6GHz
Chip set		AMD A70M Controller Hub
BIOS		BIOS (mfd. by AMI)
Memory		4GB (2GB x 2 204pin SO-DIMM socket x 2), PC3-12800 DDR3 SDRAM
Video	Controller	AMD Radeon™ HD 7600G
	Video RAM	Main memory shared
	Display I/F	DVI-I I/F x 2 (29 pin connector x 2)
System resolution *1	DVI	800 x 600, 1024 x 600, 1024 x 768, 1280 x 720, 1280 x 768, 1280 x 1024, 1360 x 768, 1366 x 768, 1400 x 1050, 1440 x 900, 1600 x 900, 1680 x 1050, 1920 x 1080@60Hz (16,770,000 colors)
Audio		HD Audio compliant LINE OUT: ϕ3.5 Stereo mini jack Full-scale output level 1.15Vrms (Typ.), MIC IN: ϕ3.5 Stereo mini jack Full-scale input level 1.4Vrms(Typ.)
mSATA		1 slot, mSATA 8GB *2 is finished mounting, bootable *3
Serial ATA		1 slot, Half-Slim SSD 32GB *2 is finished mounting, bootable *3
Serial I/F		RS-232C (general-purpose) : 1ch (SERIAL PORT) 10pin RJ-50 connector Baud rate : 50 - 115,200bps
LAN *4	I/F	1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2 (Wake On LAN support)
	Controller	Realtek 8111G Controller
USB I/F		3channels (USB 3.0-compliant)
Keyboard/mouse I/F		None *5
General-purpose I/O		None
Hardware monitoring		Monitoring CPU temperature, board temperature, power voltage
Watch dog timer		Software programmable, 255 level (1sec - 255 sec) Causes a reset upon time-out.
RTC/CMOS		Lithium backup battery life : 10 years or more The real-time clock is accurate within ±3 minutes (at 25°C) per month
Power Management		Power management setup via BIOS Power On by Ring / Wake On LAN Supports ACPI Power management
Power supply	Rated input voltage	12 - 24VDC *6
	Range of input voltage	10.8 - 26.4VDC
	Power consumption	12V 6.5A (Max.), 24V 3.3A (Max.)
	External device power supply capacity	- USB I/F : +5V 2.7A (900mA x 3)
Physical dimensions (mm)		218mm (W) x 140mm (D) x 35mm (H) (No protrusions)
Weight		About 1.83kg

*1 : It may not be possible for the screen to be displayed correctly depending on the specifications of the connected display. Also, when the OS is Windows Embedded Standard 7 and a DVI display is connected, although all the resolutions shown in this table can be set for the resolution setting of the OS, use the product with a resolution that matches the specifications of the connected display.

*2 : The disk capacities are values calculated with 1GB representing 1 billion bytes. The capacity that can be recognized by the OS may be smaller than the actual capacity.

*3 : The storage that is installed varies depending on the OS model.
- mSATA 8GB
DS-380D-DC7512 : Windows Embedded Standard 7 32bit Japanese
DS-380D-DC7516 : Windows Embedded Standard 7 32bit English
DS-380D-DC7517 : Windows Embedded Standard 7 64bit Japanese
DS-380D-DC7518 : Windows Embedded Standard 7 64bit English
- Half-Slim SSD 32GB
DS-380D-DC741D : Windows Embedded 8.1 Industry Pro 64bit Japanese
DS-380D-DC741E : Windows Embedded 8.1 Industry Pro 64bit English

*4 : If you use the 1000BASE-T, be careful of the operating temperature. For more details on this, refer to chapter3, Installation Requirements.

*5 : Use USB I/F for the keyboard / mouse.

*6 : Use a power cable shorter than 3m.
For details, see the "PWA-84AWD1" user's manual, which can be downloaded from the CONTEC website.

Table 2.2. Installation Environment Requirements

Model		DS-380D-DCxxxx
Operating temperature *7		0 - 45°C (When using 1000BASE-T : 0 - 40°C)
Storage temperature		-10 - 60°C
Humidity		10 - 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-noise resistance	Line noise	AC line / ±2kV *8, Signal line / ±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Contact discharge / ±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2), Atmospheric discharge / ±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz/semi-amplitude 0.15 mm 57 - 150Hz/2.0G 40 min. each in x, y, and z directions (JIS C60068-2-6, IEC60068-2-6-compliant)
	Others	JIS E4031-compliant Classification : 1 class : B
Impact resistance		10G, half-sine shock for 11 ms in x, y, and z directions (JIS C 60068-2-27, IEC 60068-2-27-compliant) JIS E4031-compliant Classification : 1 class : B
Grounding		Class D grounding (previous class 3 grounding), SG-FG / continuity

*7 : For more details on this, please refer to chapter 3, “Installation Requirements”.

*8 : When PWA-84AWD1 is used.

Power Management Features

- Support ACPI (Advanced Configuration and Power Interface).

Power Requirements

Your system requires a clean, steady power source for reliable performance of the high frequency CPU on the product, the quality of the power supply is even more important. For the best performance makes sure your power supply provides a range of 12 V minimum to 24 V maximum DC power source.

Power Consumption

For typical configurations, the CPU card is designed to operate with at least a 84W power supply. The power supply must meet the following requirements :

- Rise time for power supply: 2 ms - 30 ms

The following table lists the power supply's tolerances for DC voltages:

Table 2.3. DC voltage tolerance

DC Voltage	Acceptable Tolerance
+ 12V - 24V	+ 10.8 - 26.4VDC

Physical Dimensions

DS-380D-DCxxxx

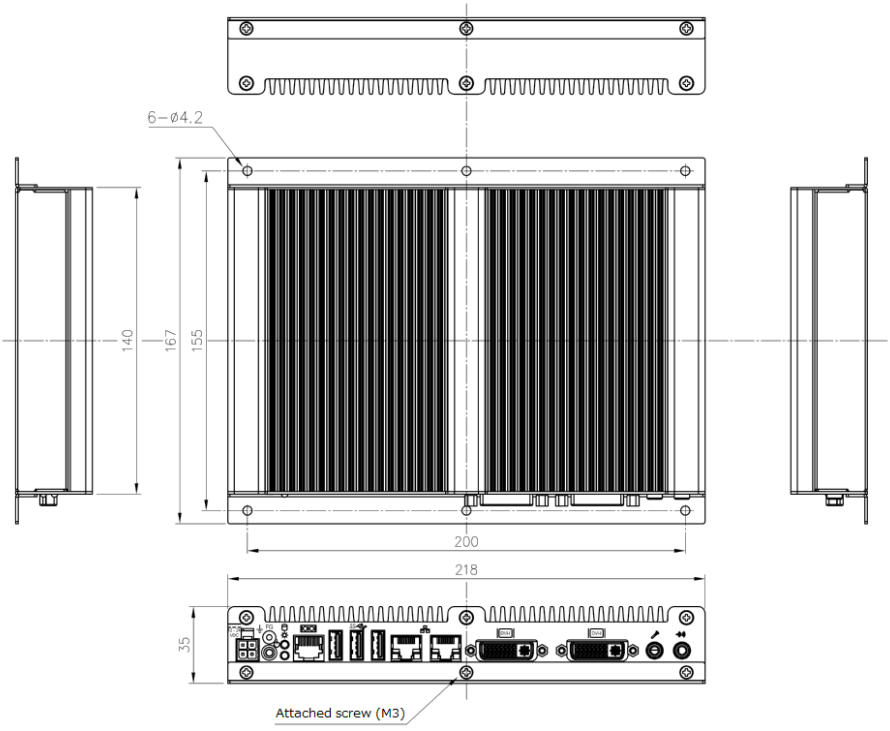


Figure 2.1. DS-380D-DCxxxx

3. Hardware Setup

Before Using the Product for the First Time

Follow the next steps to set up this product:

STEP1 By referring to the information in this chapter, install, connect and set this product.

STEP2 Connect cables.
Connect the cable of necessary external devices, such as keyboard and a display, to this product using appropriate cables.

STEP3 Turn on the power.
After verifying that you have correctly followed steps 1 and 2, turn on the power.
If you find any abnormality after turning on the power, turn it off and check to see if the setup has been performed properly.

STEP4 Set up BIOS.
By referring to Chapter 5, set up BIOS. This setup requires a keyboard and a monitor.

*1 Before using this product, be sure to execute "Restore Defaults" to initialize the BIOS settings to their default values.
(See Chapter 5, "Save & Exit".)

⚠ CAUTION

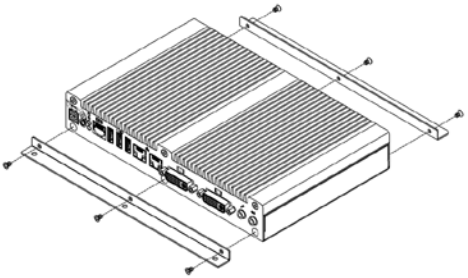
Be sure to connect the keyboard and mouse to it before turning the power on for the first time.

Hardware Setup

- Before you start, be sure that the power is turned off.
- Remove only those screws that are explained. Do not move any other screw.

Attaching the Attachment Fittings

(1) Use screws to attach the bundled attachment fittings with a screw.
(The attachment fittings are attached to the product when it is shipped.)
Do not tighten screws with excess force.

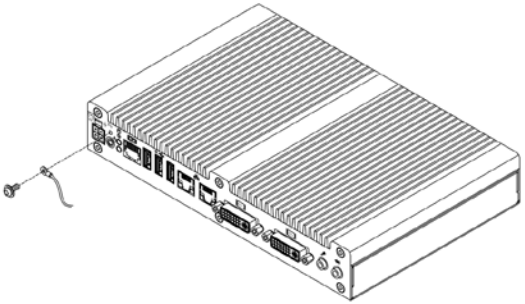


* Attached screw (M3)

Figure 3.1. Attaching the Attachment Fittings

Attaching the FG

Use screws to attach the FG. (The screw is attached to the product when it is shipped.)



* Attached screw (M3)

Figure 3.2. Attaching the FG

⚠ CAUTION

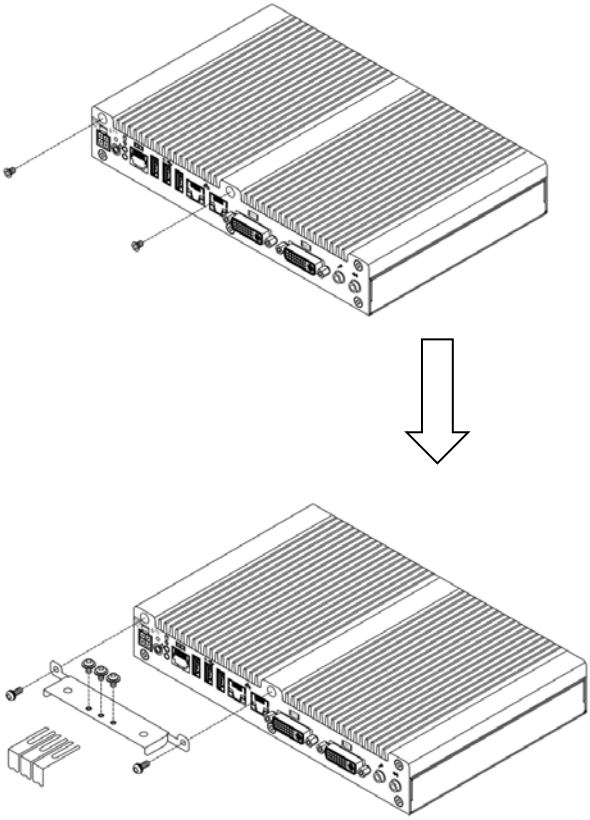
The FG pin of this product is connected to the GND signal of the DC power connector (DC-IN).
Note that the connection cannot be cut off.
Screw holes may be damaged if screws are tightened with a torque greater than the specified torque.The specified tightening torque is 5 - 6kgf·cm.

Fastening the Cable

This product comes with clamps for fixing cables.

Fastening the USB Cable

With this product, you can prevent disconnections of USB connectors that are not equipped with locking mechanisms by using the cable clamp. Use the cable clamp by matching it to the connection status and wiring directions of the cables. Use the clamp to fix the connectors in place so that stress is not applied to them.



* Attached screw (M3 x 6, M3 x 8)

Figure 3.3. Attaching the cable clamp

Installation Methods

Use screws to attach the attachment fittings to the installation surface.
Do not apply excessive force when tightening the screws.

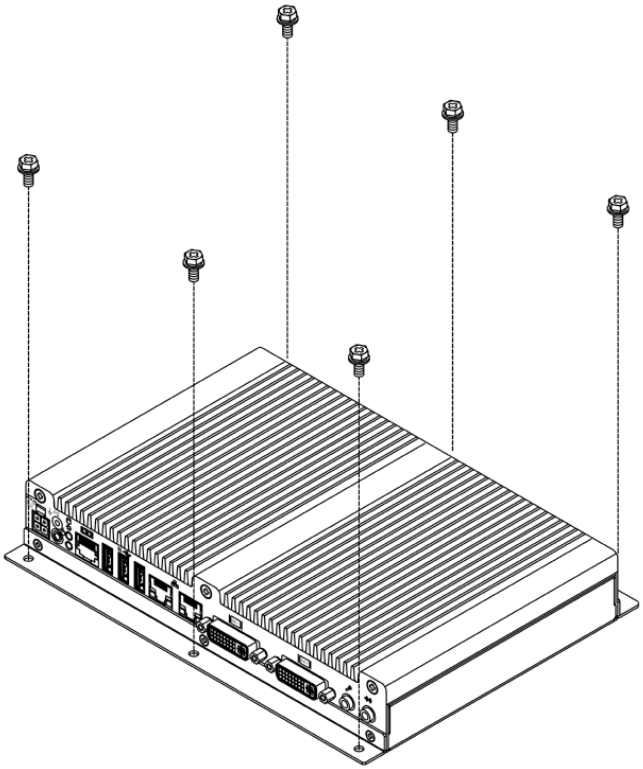


Figure 3.4. Installation Methods

Installation Requirements

Be sure that the operating temperature is within the range specified in the installation environment requirement by making space between the product and device that generates heat or exhaust air.

DS-380D-DCxxxx

Installable directions at operating temperature 0 - +45°C (When using 1000BASE-T : 0 - +40°C)

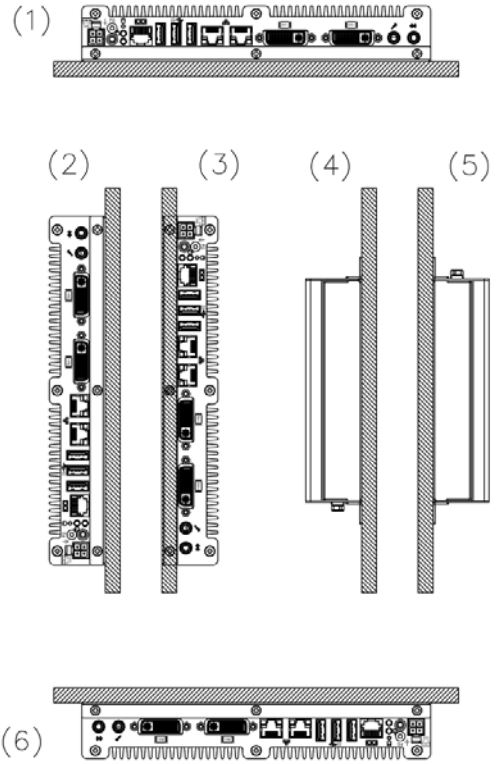


Figure 3.5. Installation Orientation (DS-380D-DCxxxx)

⚠ CAUTION

Note that even though the ambient temperature is within the specified range, an operational malfunction may occur if there is other device generating high heat; the radiation will influence the product to increase its temperature.

Distances between this product and its vicinity

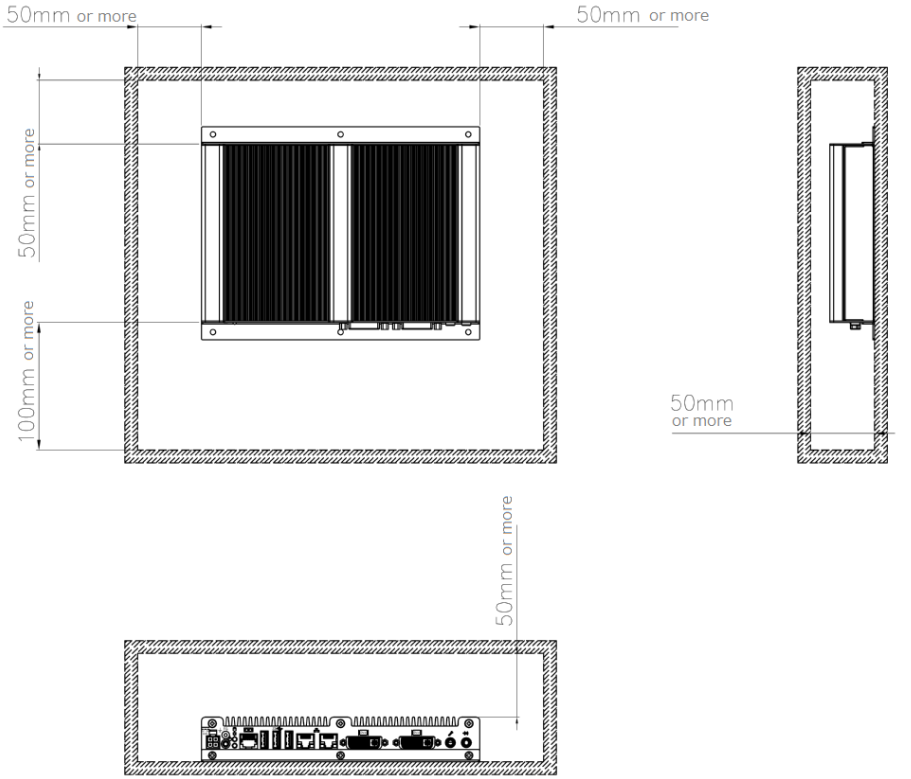


Figure 3.6. Distances between this product and its vicinity

⚠ CAUTION

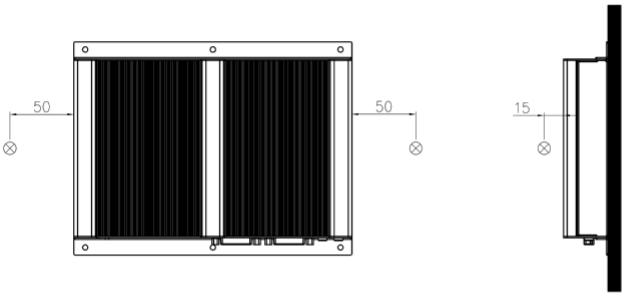
Do not install this product into the fully-sealed space except the case in which the internal temperature is adjustable by equipment such as air conditioner. Troubles such as operational malfunctions could be occurred by the temperature increase caused by long-term usage.

Operating temperature

In this product, the operating temperature is decided from the multiple measurement points as shown below. When making use of the product, the air current should be adjusted to prevent that all the temperatures measured at the measurement points exceed the specified temperature. *1

⊗ : measurement points

<Vertical installation>



<Horizontal installation>

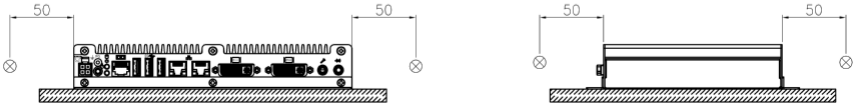


Figure 3.7. Operating temperature

*1 The operating temperature specifications are met with the following installation environment requirements.

Installation direction	:Vertical installation
Operating temperature	:45°C (10BASE-T/100BASE-T), 40°C (1000BASE-T)
Air flow	:0.5m/s
Load state	: - CPU utilization 100%
	- Memory, storage Read/Write
	- Continuous operation of all interfaces (COM, LAN x 2, DVI-I x 2, MIC, LINE-OUT)
	* It is assumed that USB mice, USB keyboards, or other USB 3.0 devices (900mA loads) will be used with the three USB 3.0 ports.
	* 2D graphics and 3D graphics (1920 × 1080) are displayed.

4. Each Component Function

Component Name

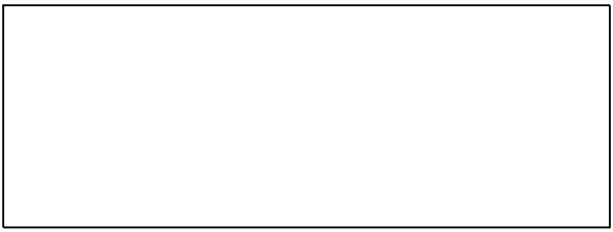


Figure 4.1. Component Name

Table 4.1. Component Function

Name	Function
POWER-SW	Power switch
POWER LED	Power ON display LED
ACCESS LED	Disk access display LED
DC-IN	DC power input connector
LINE OUT	Line out (ϕ3.5 PHONE JACK)
MIC IN	Mike in (ϕ3.5 PHONE JACK)
LAN	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 2
USB	USB 3.0 port connector x 3
SERIAL	Serial port connector (10pin RJ-50connector)
DVI-I	Display (29pin D-SUB/female) x 2

System Configuration

LED: POWER, ACCESS, STATUS

There are 2 LED in front of this product.

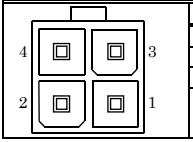
Table 4.2. Display Contents of LED

LED name	State	Display contents
POWER LED	OFF	Indicates that this product is switched off.
	ON (Green)	Indicates that this product is switched on.
ACCESS LED	ON (Orange)	Indicates that the storage device is being accessed.

DC Power Input Connector : DC-IN

To supply the power, always use the power supply listed below.
Rated input voltage : 12 - 24VDC
Range of input voltage : 10.8 - 26.4VDC
Power capacity : 12V 3.0A or more, 24V 1.6A or more

Table 4.3. DC Power Connector

Connector type	9360-04P(mfd. by ALEX)	
	Pin No.	Signal name
	1	GND
	2	GND
	3	12 - 24V
	4	12 - 24V

Applicable connector on the connector side
Housing : 9357-04 (mfd. by ALEX) or 5557-04R (mfd. by MOLEX)
Contact : 4256T2-LF (AWG18-24) (mfd. by ALEX) or 5556 (AWG18-24) (mfd. by MOLEX)

Rise time of power supply

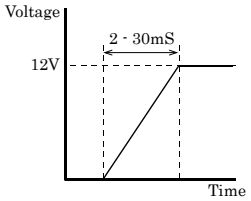


Figure 4.3. Graph of Rise Time of Power Supply

Power Switch : POWER SW

POWER SW is provided.

Line out Interface: LINE OUT

A line output connector is provided. You can plug a headphone or amplifier-integrated speakers into this connector.

MIC in Interface: MIC IN

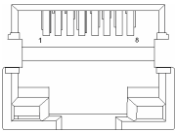
A MIC input connector is provided. You can plug a microphone to this connector for sound input.

Giga bit-Ethernet : LAN

This product is equipped with 2 ports for giga bit.

- Network type : 1000BASE-T/100BASE-TX/10BASE-T
- Transmission speed : 1000M/100M/10M bps
- Max. network path length : 100m/segment
- Controller : Realtek 8111G

Table 4.4. Giga bit-Ethernet Connector

LAN	Pin No.	Function	
		10BASE-T 100BASE-TX	1000BASE-T
	1	TX+	TRD+(0)
	2	TX-	TRD-(0)
	3	RX+	TRD+(1)
	4	N.C.	TRD+(2)
	5	N.C.	TRD-(2)
	6	RX-	TRD-(1)
	7	N.C.	TRD+(3)
	8	N.C.	TRD-(3)

LEDs for display of network statuses:

Right LED : Link LED

Normal connection : Orange ON, Operation: Orange Blinking

Left LED : Operation LED

10M : Off, 100M : Green, 1000M : Orange

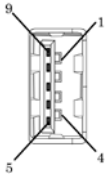
⚠ CAUTION

- Be careful of the guaranteed operating temperature when using the 1000BASE-T network type. For details, see "Installation Requirements" in chapter 3. When using this product in an environment with a temperature of 0 to 45°C, set the network type to 100BASE-TX or 10BASE-T.
- If you are using the Wake On LAN (WOL) function, set the OS driver setting "Wake on Magic Packet" to "Enabled". Also enable WOL from the BIOS setup screen. (For details, see "EuP/ErP Power Saving Controller" under "Advanced" in chapter 5.)

USB Ports : USB 3.0

This product is equipped with 3 channels for USB 3.0 interface.
You have to configure the BIOS settings to use USB 3.0.
For details on the BIOS settings, see "SB USB Configuration" under "South Bridge" under "Chipset" in chapter 5.

Table 4.5. USB Connector



Pin No.	Signal name	Pin No.	Signal name
9	SSTX+	1	USB_VCC
8	SSTX-	2	USB-
7	GND	3	USB+
6	SSRX+	4	USB_GND
5	SSRX-		

Serial Port Interface : SERIAL

SERIAL (RS-232C port)

This product is equipped with one serial port that complies with RS-232C. This port has a baud rate of 115,200 bps (max.), a dedicated data transmission buffer of 16 bytes, and a dedicated data reception buffer of 16 bytes. You can use the BIOS setup (see chapter 5) to set the I/O address and interrupt of this port and to disable the port. (The same I/O address and IRQ cannot be shared with any other device.)

Table 4.6. SERIAL B I/O Addresses and Interrupts

I/O address	Interrupt
3F8h - 3FFh	IRQ 4

Table 4.7. Serial Port Connector

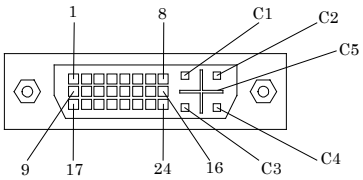
Connector used on the product	10-pin RJ-50 (male)		
			
Pin No.	Signal name	Meaning	Direction
1	DSR	Data set ready	Input
2	GND	Signal ground	-----
3	GND	Signal ground	-----
4	TXD	Transmitted data	Output
5	RXD	Received data	Input
6	DCD	Carrier detect	Input
7	DTR	Data terminal ready	Output
8	CTS	Clear to send	Input
9	RTS	Request to send	Output
10	RI	Ring indicator	Input

DVI Interface : DVI

Two DVI interfaces are provided. The connector is named DVI (DVI-I 29-pin connector).

Table 4.8. DVI Connector

Connector type	DVI-I 29 pin



Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
1	DATA2-	13	N.C.	C1	RED
2	DATA2+	14	+5V	C2	GREEN
3	DATA2 SHIELD	15	GND	C3	BLUE
4	N.C.	16	HPD	C4	HSYNC
5	N.C.	17	DATA0-	C5	GND
6	DDC CLK	18	DATA0+		
7	DDC DATA	19	DATA0 SHIELD		
8	VSYNC	20	N.C.		
9	DATA1-	21	N.C.		
10	DATA1+	22	DATA0 SHIELD		
11	DATA1 SHIELD	23	CLK+		
12	N.C.	24	CLK-		

5. BIOS Setup

Introduction

This chapter discusses AMI's Setup program built into the FLASH ROM BIOS. The Setup program allows users to modify the basic system configuration. This setup information is stored in battery backed-up RAM, so the setup information is maintained even when the computer's power is turned off.

The rest of this chapter is intended to guide you through the process of configuring your system using Setup.

Starting Setup

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

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

- By pressing <Del> or <F2> immediately after switching the system on, or
- By pressing the <Del> or <F2> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self-Test).

  Press <DEL> or <F2> to enter setup.

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the "+" and "-" keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Table 5.1. Using Setup

Key	Function
Up Arrow	Move to the previous item
Down Arrow	Move to the next item
Left Arrow	Move to the item on the left (menu bar)
Right Arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desired
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help on Setup navigation keys
F2 key	Load previous settings
F3 key	Load the optimized defaults
F4 key	Save all settings changes to the FLASH ROM and exit

Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

In Case of Problems

If it is not possible to boot the computer after system settings have been changed and saved during setup, this product will need to be repaired.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the CPU/chipset defaults. These defaults have been carefully chosen by both AMI and your systems manufacturer to provide the absolute maximum performance and reliability. If chipset settings are changed even slightly, it may become necessary to repair the unit.

A Final Note About Setup

The information in this chapter is subject to change without notice.

Main Menu

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. By pressing the left or right arrow keys, you will be able to move the tab of each item.

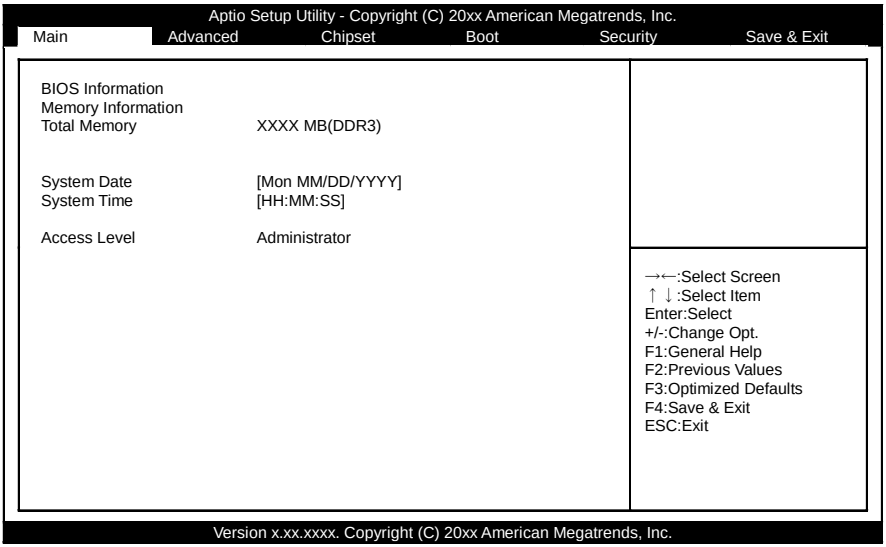


Figure 5.1. Main Manu

Setup Items

You can choose the following tabs.

Main

Use this menu to confirm the system basic configuration and set the language and time at the same time.

Advanced

Use this menu to set the detailed function that can setting to your system.

Chipset

Use this menu to specify the setting about your chipset.

Boot

Use this menu to specify the setting about the system boot.

Security

Use this menu to set the password so that the system security can be protected.

Save & Exit

Use this menu to load or save the setup item and to exit the setup menu.

Main

Use this menu to check basic system configuration. Settings that can be configured in the Main menu are described in the table below.

Table 5.2. Main Menu Selections

Item	Options	Description
System Date	Month / Day / Year	Set the Date. Use Tab to switch between Data elements.
System Time	Hour : Minute : Second	Set the Time. Use Tab to switch between Data elements.

Advanced

Use this menu to set the detailed function that can setting to your system.

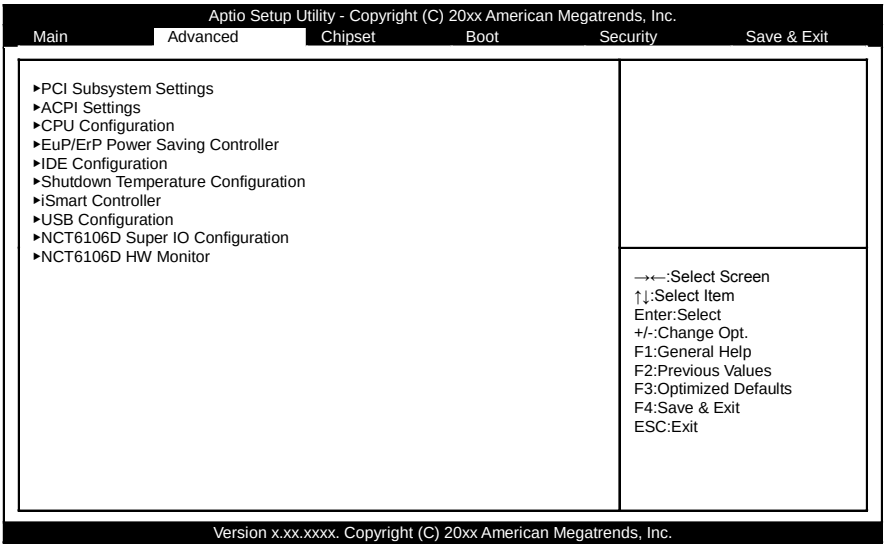


Figure 5.2. Advanced menu

Settings that can be configured in the Advanced menu are described in the table below.

The following sub items are available:

PCI Subsystem Settings
Use this menu to specify PCI Subsystem Settings.

ACPI Settings
Use this menu to specify ACPI power management settings.

CPU Configuration
Use this menu to specify CPU Configuration.

EuP/ErP Power Saving Controller
Use this menu to specify the power saving setting.

IDE Configuration
Use this menu to specify IDE controller settings.

Shutdown Temperature Configuration
Use this menu to set the shutdown temperature.

iSmart Controller
Use this menu to specify the power-on and power-off settings.

USB Configuration
Use this menu to specify USB Configuration.

NCT6106D Super I/O Configuration
Use this menu to specify the super I/O settings.

NCT6106D HW Monitor
Use this menu to view the hardware monitor.

PCI Subsystem Settings

Use this menu to specify PCI Subsystem Settings.

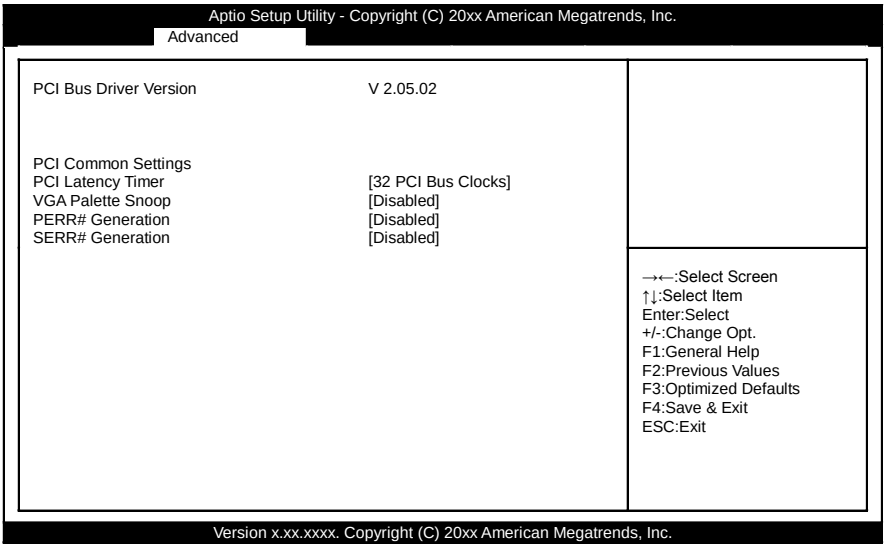


Figure 5.3. PCI Subsystem Settings

Items that can be configured for PCI subsystem settings are described in the table below.

Table 5.3. PCI Subsystem Settings

Item	Options	Description
PCI Latency Timer	32 PCI Bus Clocks 64 PCI Bus Clocks 96 PCI Bus Clocks 128 PCI Bus Clocks 160 PCI Bus Clocks 192 PCI Bus Clocks 224 PCI Bus Clocks 248 PCI Bus Clocks	Value to be programmed into PCI Latency Timer Register.
VGA Palette Snoop	Disabled Enabled	Enables or disables VGA Palette Registers Snooping.
PERR# Generation	Disabled Enabled	Enables or disables PCI device to generate PERR#.
SERR# Generation	Disabled Enabled	Enables or disables PCI device to generate SERR#.

ACPI Settings

Use this menu to specify ACPI power management settings.

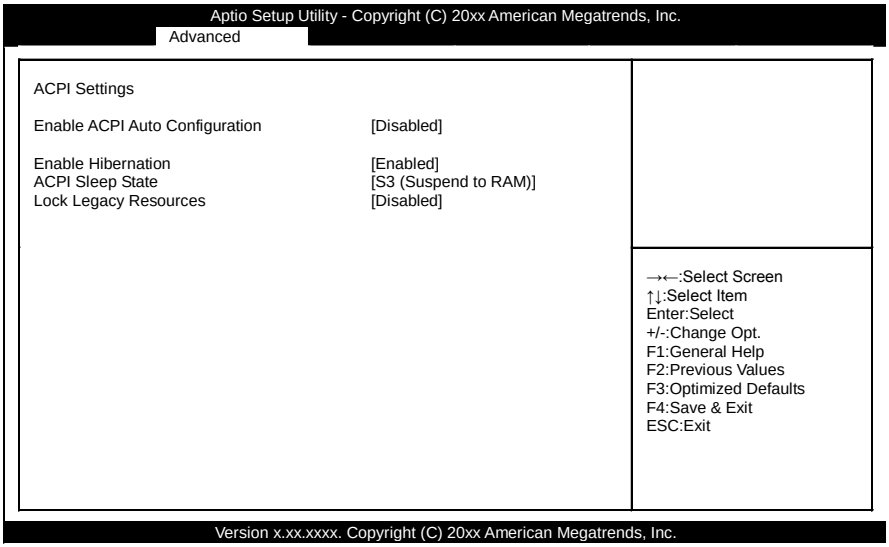


Figure 5.4. ACPI Settings

Settings that can be configured in the ACPI Settings are described in the table below.

Table 5.4. ACPI Settings

Item	Options	Description
Enabled ACPI Auto Configuration	[Disabled] Enabled	Enable or Disable ACPI Auto Configuration.
Enable Hibernation	Disabled [Enabled]	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State	Suspend Disabled [S3(Suspend to RAM)]	Select ACPI sleep state the system will enter, when the SUSPEND button is pressed.
Lock legacy Resources	[Disabled] Enabled	Enabled or Disabled Lock of Legacy Resources.

CPU Configuration

Use this menu to specify CPU Configuration.

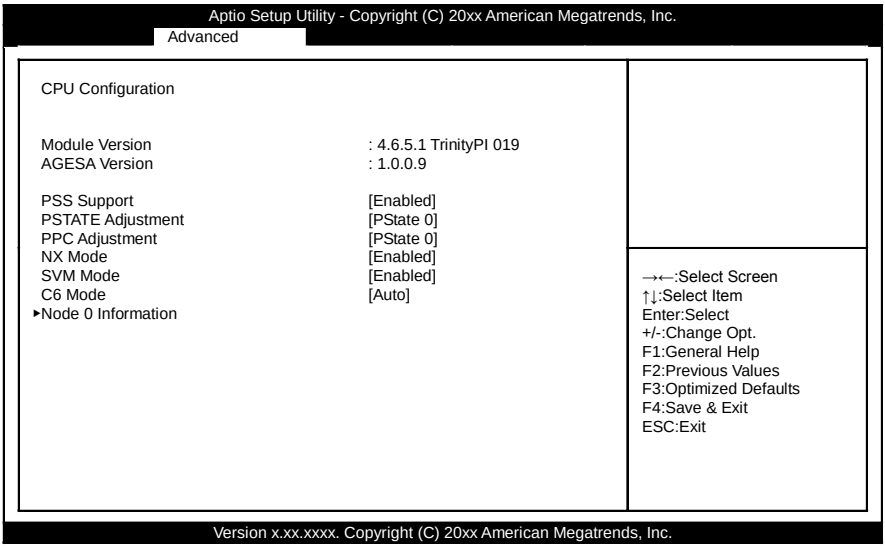


Figure 5.5. CPU Configuration

Settings that can be configured in the CPU Configuration are described in the table below.

Table 5.5. CPU Configuraiton

Item	Options	Description
PSS Support	Disabled [Enabled]	Enable/disable the generation of ACPI _PPC, _PPC, _PSS, and _PCT objects.
PSTATE Adjustment	[PState 0] PState 1 PState 2 PState 3 PState 4 PState 5 PState 6 PState 7	Provide to adjust startup P-state level.
PPC adjustment	[PState 0] PState 1 PState 2 PState 3 PState 4	Provide to adjust _PPC object.
NX Mode	Disabled [Enabled]	Enable/disable No-execute page protection function.
SVM Mode	Disabled [Enabled]	Enable/disable CPU Virtualization.
C6 Mode	[Auto] Disabled	Auto/disable CPB.

The following sub items are available :

Node 0 Information
View memory information related to Node 0.

Node 0 Information

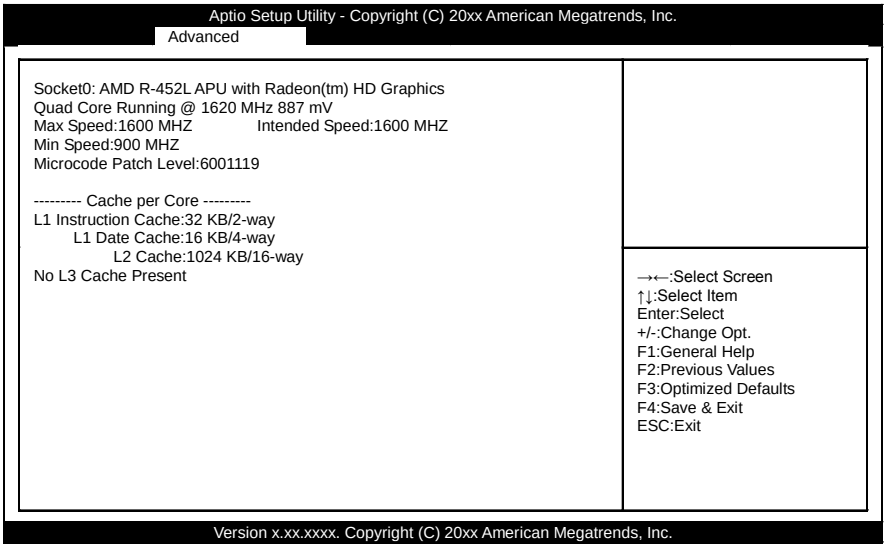


Figure 5.6. Node 0 Information

EuP/ErP Power Saving Controller

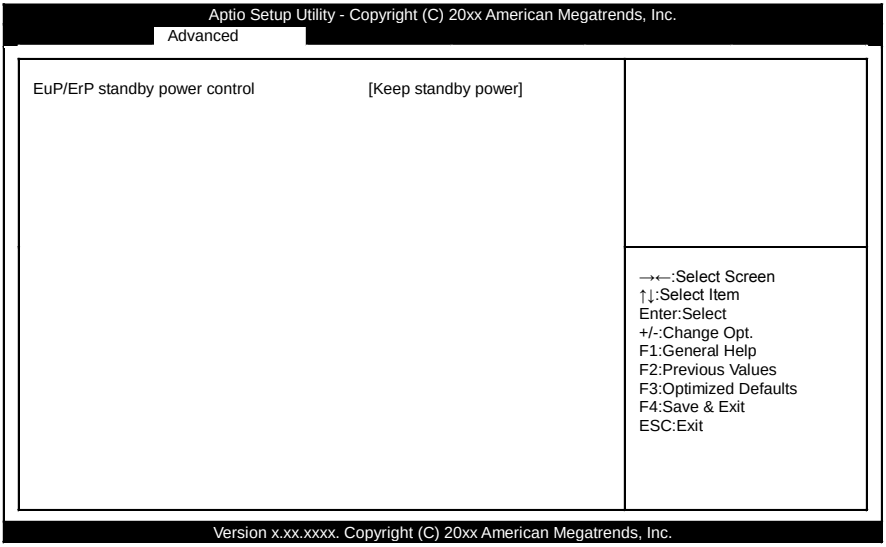


Figure 5.7. IEuP/ErP Power Saving Controller

The setting that can be configured on the EuP/ErP Power Saving Controller screen is described in the table below.

Table 5.6. EuP/ErP Power Saving Controller

Item	Options	Description
EuP/ErP standby power control	Keep standby power	[Keep standby power] Enable All of the standby power and ignore EuP/ErP specification.
	Ethernet Only [WOL]	[Ethernet Only] Only provide the standby power for Ethernet chip.
	No standby power	[No standby power] Shut down all of the standby power.

IDE Configuration

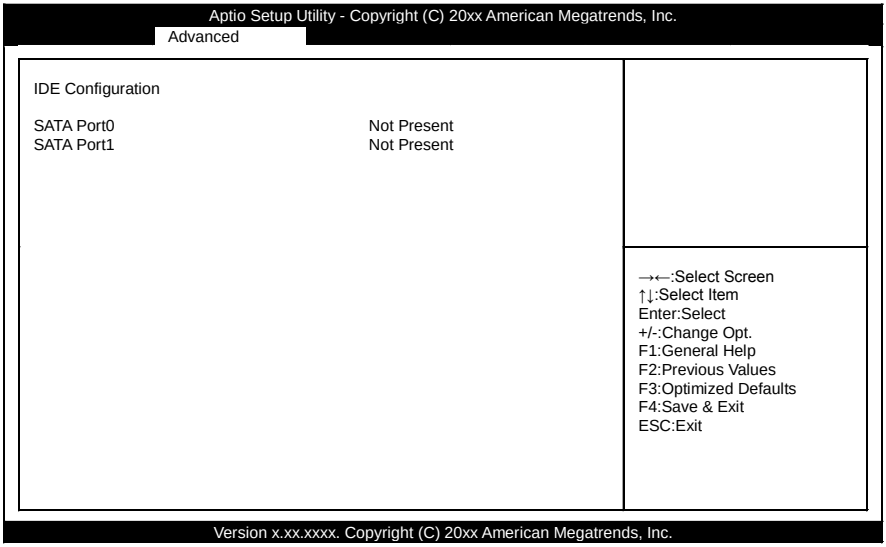


Figure 5.8. IDE Configuration

Shutdown Temperature Configuration

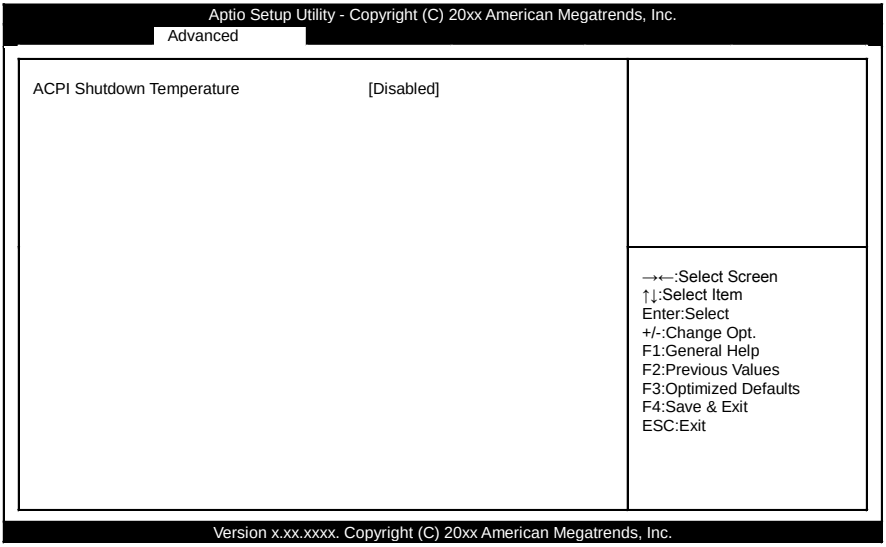


Figure 5.9. Shutdown Temperature Configuration

The setting that can be configured on the Shutdown Temperature Configuration screen is described in the table below.

Table 5.7. Shutdown Temperature Configuration

Item	Options	Description
ACPI Shutdown Temperature	Disabled 70 C/158 F 75 C/167 F 80 C/176 F 85 C/185 F 90 C/194 F 95 C/203 F 100 C/212 F	The default setting is Disabled.

iSmart Controller

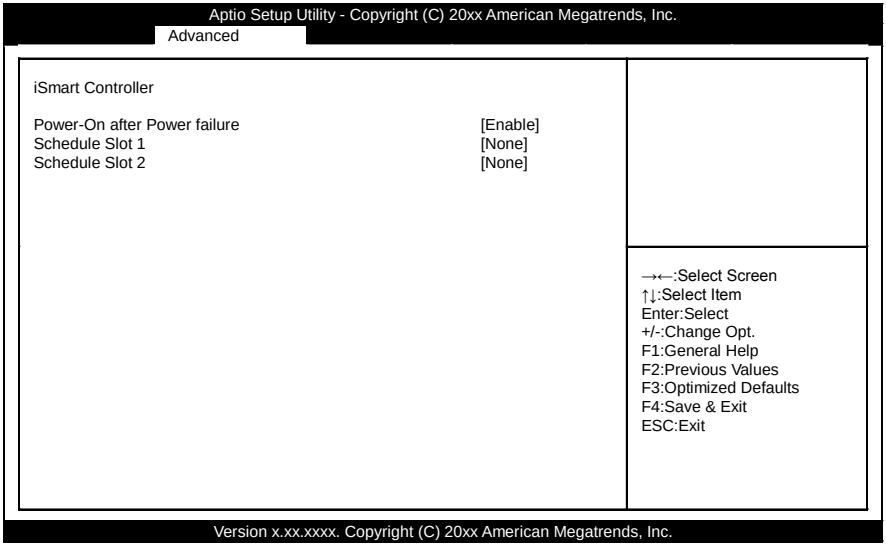


Figure 5.10. iSmart Controller

The setting that can be configured on the iSmart Controller screen is described in the table below.

Table 5.8. iSmart Controller

Item	Options	Description
Power-On after Power failure	Disable [Enable]	Enable or Disable.
Schedule Slot	[None] Power On Power On/Off	Setup the hour/minute for system power on.

When "Schedule Slot" is set to Power On, the settings become those shown in the following figure.

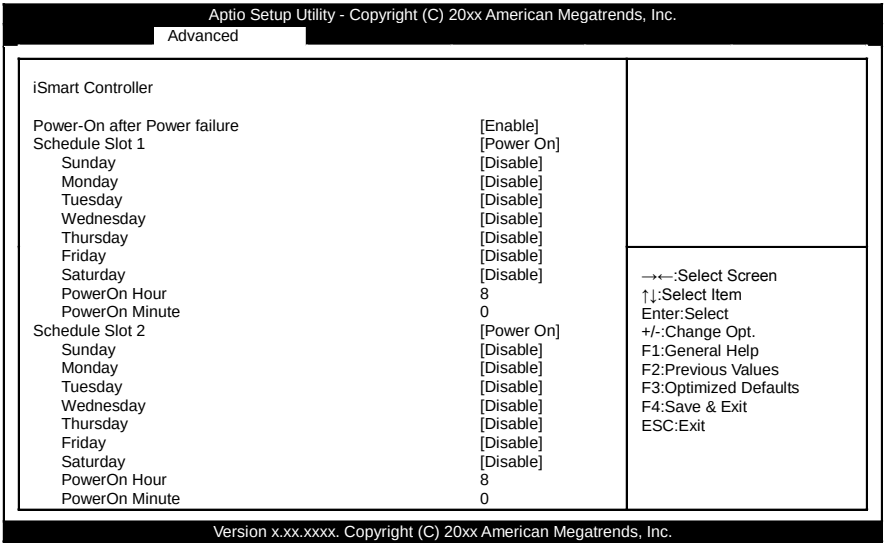


Figure 5.11. iSmart Controller [Screen with "Schedule Slot" Set to "Power On"]

The settings that can be configured when "Schedule Slot" is set to Power On are described in the table below.

Table 5.9. iSmart Controller [Screen with "Schedule Slot" Set to "Power On"]

Item	Options	Description
Sunday,Monday,Tuesday,Wednesday Thursday,Friday,Saturday	Disable Enable	
PowerOn Hour / Minute	Hour :8 Minute :0	

When "Schedule Slot" is set to Power On/Off, the settings become those shown in the following figure.

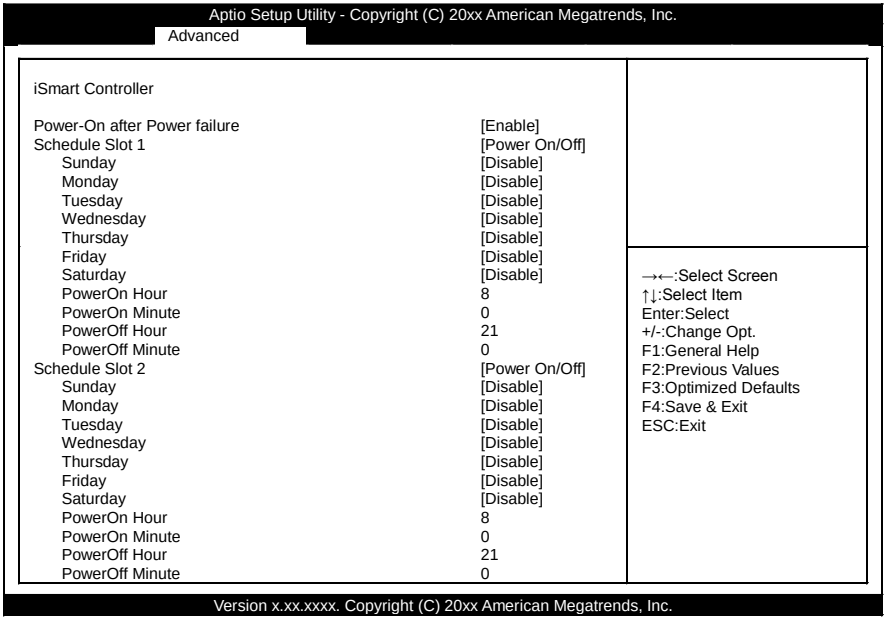


Figure 5.12. iSmart Controller [Screen with "Schedule Slot" Set to "Power On/Off"]

The settings that can be configured when "Schedule Slot" is set to Power On/Off are described in the table below.

Table 5.10. iSmart Controller [Screen with "Schedule Slot" Set to "Power On/Off"]

Item	Options	Description
Sunday,Monday,Tuesday,Wednesday Thursday,Friday,Saturday	Disable Enable	
PowerOn Hour / Minute	Hour :8 Minute :0	
PowerOff Hour / Minute	Hour :21 Minute :0	

USB Configuration

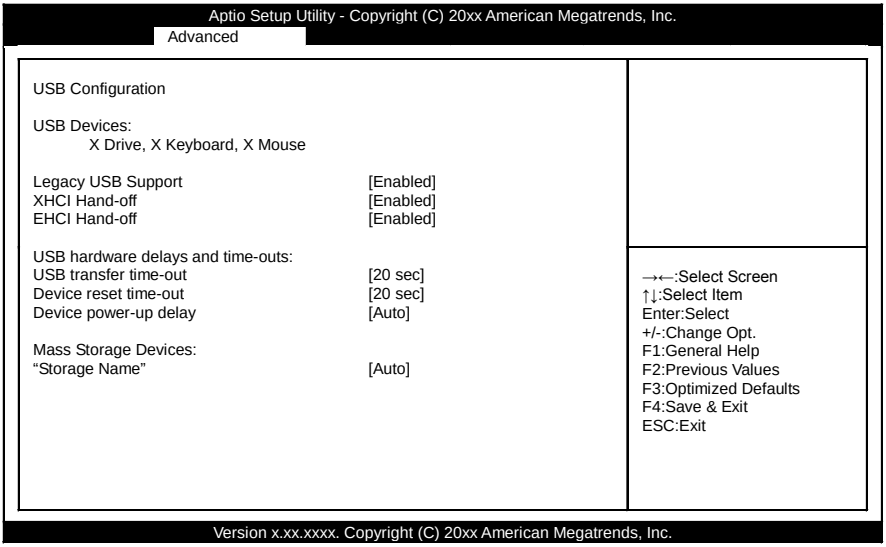


Figure 5.13. USB Configuration

Settings that can be configured in the USB Configuration are described in the table below.

Table 5.11. USB Configuraiton

Item	Options	Description
Legacy USB Support	[Enabled] Disabled Auto	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option keeps USB devices available only for EFI applications.
XHCI Hand off	[Enabled] Disabled	Enable/Disable USB3.0 (XHCI) Controller support.
EHCI Hand-off	[Enabled] Disabled	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
USB transfer time-out	1 sec 5 sec 10 sec [20 sec]	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	10 sec [20 sec] 30 sec 40 sec	USB mass Storage device start Unit command time-out.
Device power-up delay	[Auto] Manual	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

NCT6106D Super IO Configuration

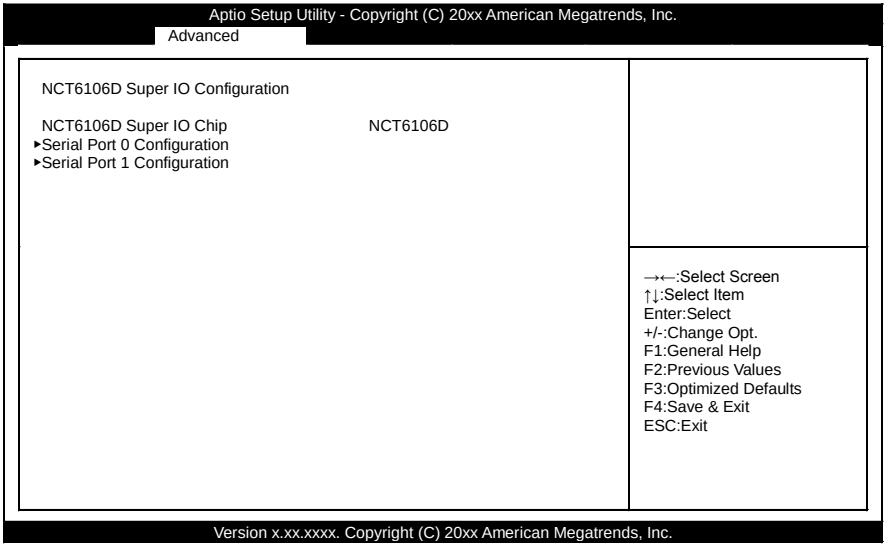


Figure 5.14. NCT6106D Super IO Configration

The following sub items are available:

Serial Port x Configuration (x =0, 1)
Set Parameters of Serial Ports.
User can Enable/Disable the serial port and Select an optimal settings for the Super IO Device.
You cannot use Serial Port 1.

Serial Port x Configuration (x =0, 1)

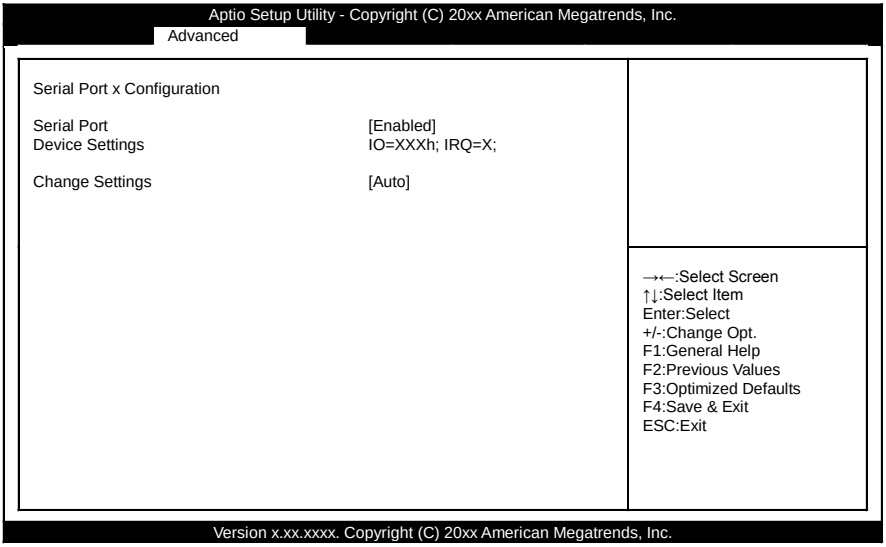


Figure 5.15. Serial Port x Configuration (x =0, 1)

The setting that can be configured on the Serial Port x Configuration (x =0, 1) screen is described in the table below.

Table 5.12. Serial Port x Configuration (x =0, 1)

Item	Options	Description
Serial Port	Disabled [Enabled]	Enable/Disable Serial Port support.
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;	The default setting is Auto.

NCT6106D HW Monitor

View the system status such as the CPU and system temperatures and the input voltage.

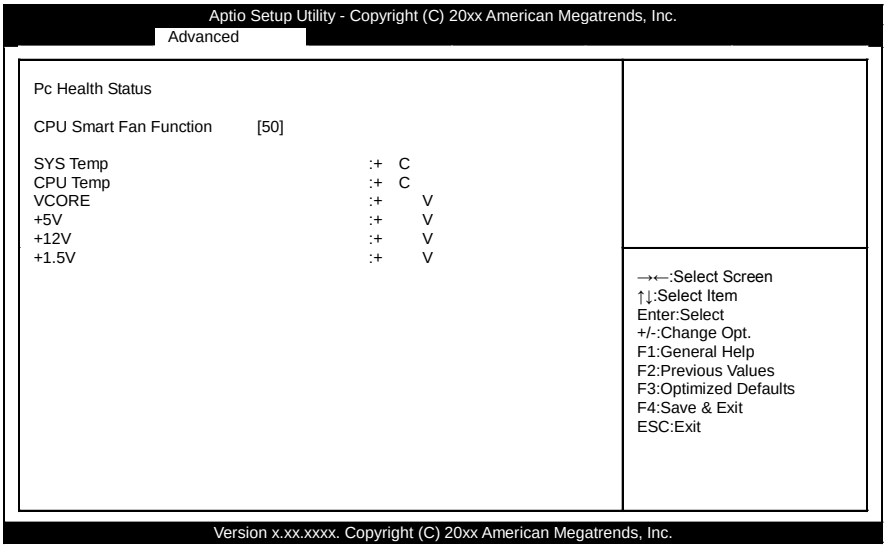


Figure 5.16. NCT6106D HW Monitor

The setting that can be configured on the NCT6106D HW Monitor screen is described in the table below.

Table 5.13. Item Displayed on the NCT6106D HW Monitor Menu

Item	Options	Description
CPU Smart Fan Function	Disabled 50 60 70 80 90	This function is not supported by this product.

Chipset

Use this menu to specify advanced chipset settings.

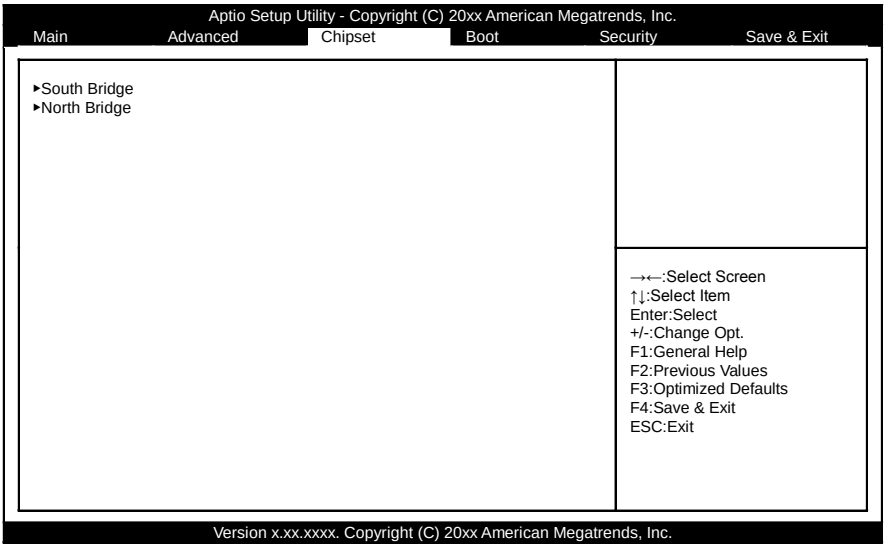


Figure 5.17. Chipset Menu

The following sub items are available:

South Bridge
Use this menu to specify South Bridge.

North Bridge
Use this menu to specify North Bridge.

South Bridge

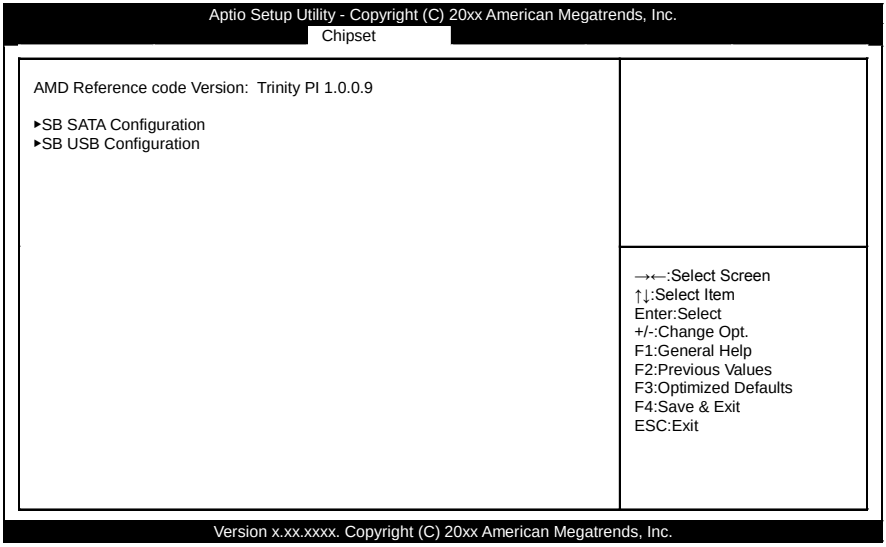


Figure 5.18. South Bridge

The setting that can be selected on the South Bridge screen is described below.
The following sub items are available:

SB SATA Configuration
Use this menu to specify the SATA settings.

SB USB Configuration
Use this menu to specify the USB settings.

SB SATA Configuration

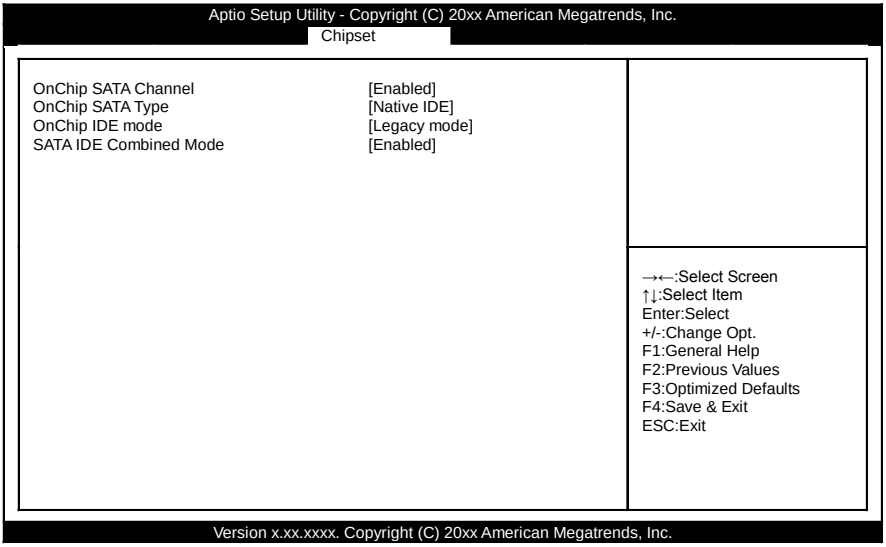


Figure 5.19. SB SATA Configuration

The setting that can be configured on the SB SATA Configuration screen is described in the table below.

Table 5.14. SB SATA Configuration

Item	Options	Description
OnChip SATA Channel	Disabled [Enabled]	Enabled or Disabled.
OnChip SATA Type	[Native IDE] AHCI	Native IDE /n RAID /n AHCI /n AHCI /n Legacy IDE /n IDE->AHCI /n HyperFlash
OnChip IDE mode	[Legacy mode] Native mode	Legacy mode or Native mode
SATA IDE Combined Mode	Disabled [Enabled]	Enabled or Disabled.

SB USB Configuration

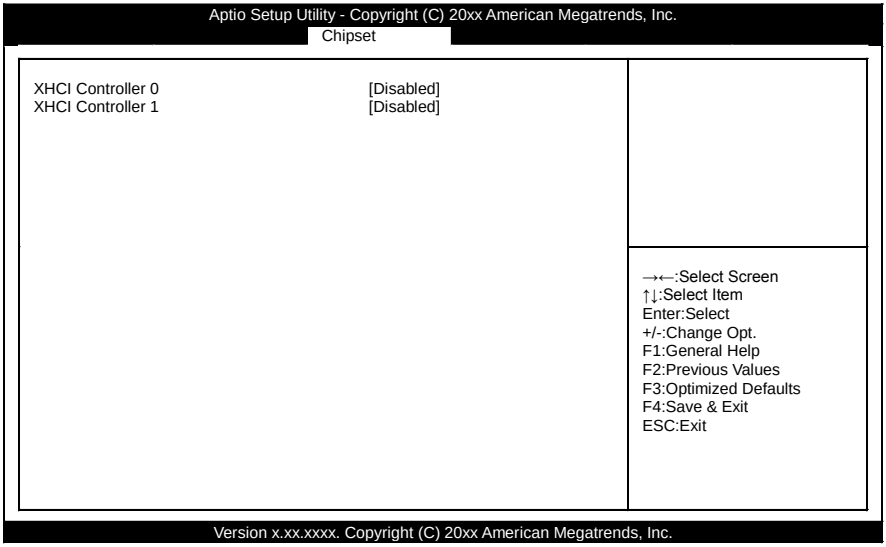


Figure 5.20. SB USB Configuration

The setting that can be configured on the SB USB Configuration screen is described in the table below. If you will use USB 3.0, enable the following item.

Table 5.15. Item Displayed on the SB USB Configuration Menu

Item	Options	Description
XHCI Controller	[Disabled] Enabled	Enable or Disable USB3.0 (XHCI) Controller support.

North Bridge

Configure the North Bridge chipset.

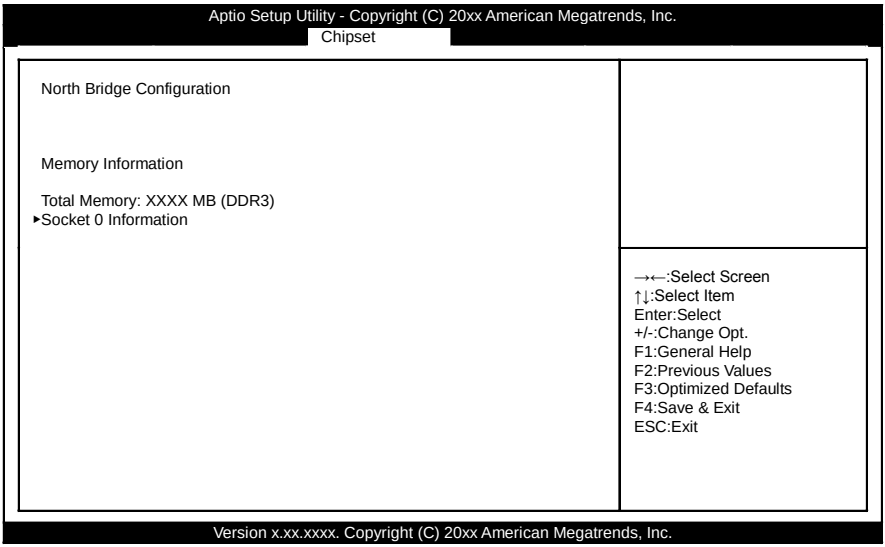


Figure 5.21. North Bridge

The setting that can be selected on the North Bridge screen is described below.

The following sub items are available:

Socket 0 Information
Use this menu to view the memory information.

Socket 0 Information

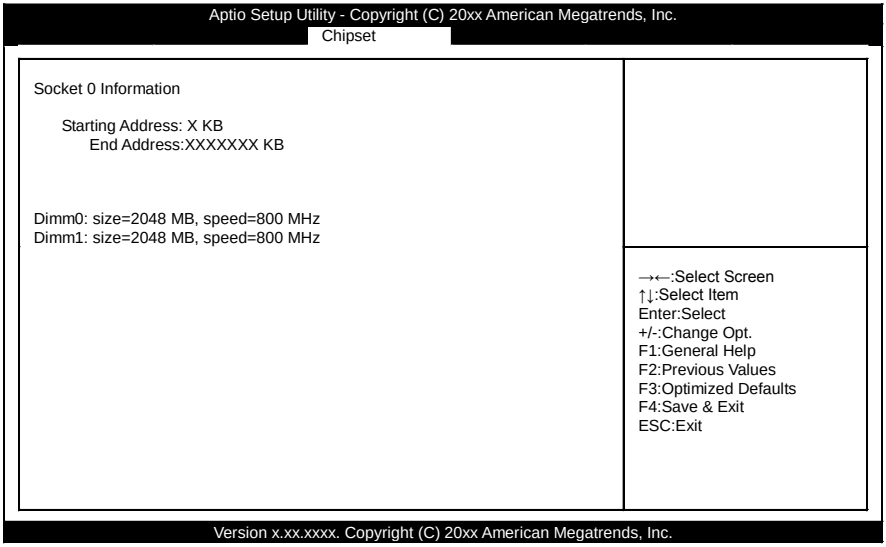


Figure 5.22. Socket 0 Information

Boot

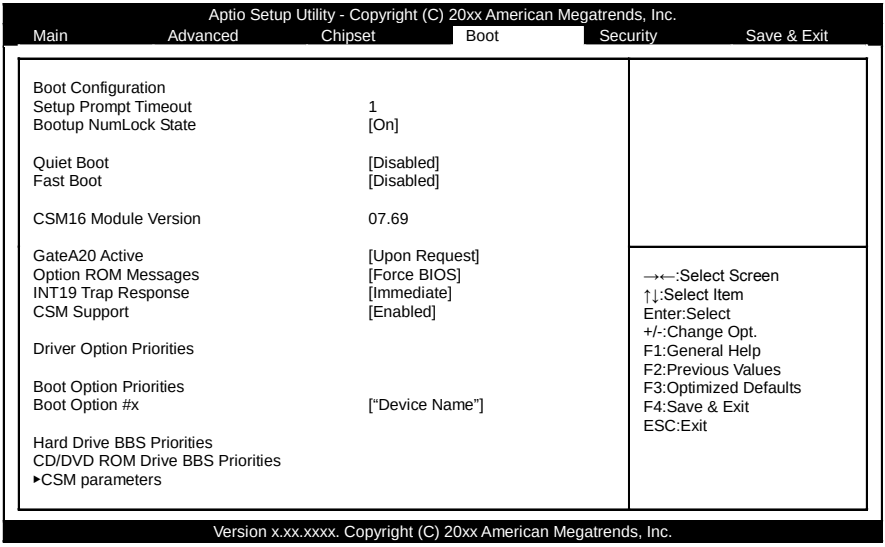


Figure 5.23. Boot Menu

Specify the settings related to how the system will start. The following items are available.

Table 5.16. Boot

Item	Options	Description
Setup Prompt Timeout	[1] – 65535	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	[On] Off	Select the keyboard NumLock state.
Quiet Boot	[Disabled] Enabled	Enables/Disables Quiet Boot option.
Fast Boot	[Disabled] Enabled	Enables/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] Always	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	[Force BIOS] Keep Current	Set display mode for Option ROM. Options are Force BIOS and Keep Current.
INT19 Trap Response	[Immediate] Postponed	Enable: Allows Option ROMs to trap Int 19.
CSM Support	Disabled [Enabled] Auto	OpROM execution, boot options, filter, etc.

Item	Options	Description
Boot Option #x	XXXXXXXXX (Specify an arbitrary device.)	Sets the system boot order.
Hard Drive BBS Priorites	XXXXXXXXX (Specify an arbitrary device.)	Sets the HDD boot order.
CD/DVD ROM Drive BBS Priorities	XXXXXXXXX (Specify an arbitrary device.)	Sets the CD/DVD ROM Drive boot order.

⚠ CAUTION

- In the Boot Option #x list, the same device may be displayed as shown below.
  (1) USB Disk
  (2) UEFI：USB Disk
  In this situation, select (1) to perform legacy booting in which the disk is assumed to be MBR formatted and (2) to perform UEFI booting in which the disk is assumed to be GPT formatted.
  Be sure to specify (1) for the boot setting. Booting with option (2) is not supported.
- Only the devices set with high priorities with the other settings such as CD/DVD ROM Drive BBS Priorities can be selected in the Boot Option #x lists.

When "Fast Boot" is set to Enabled, the settings become those shown in the following figure.

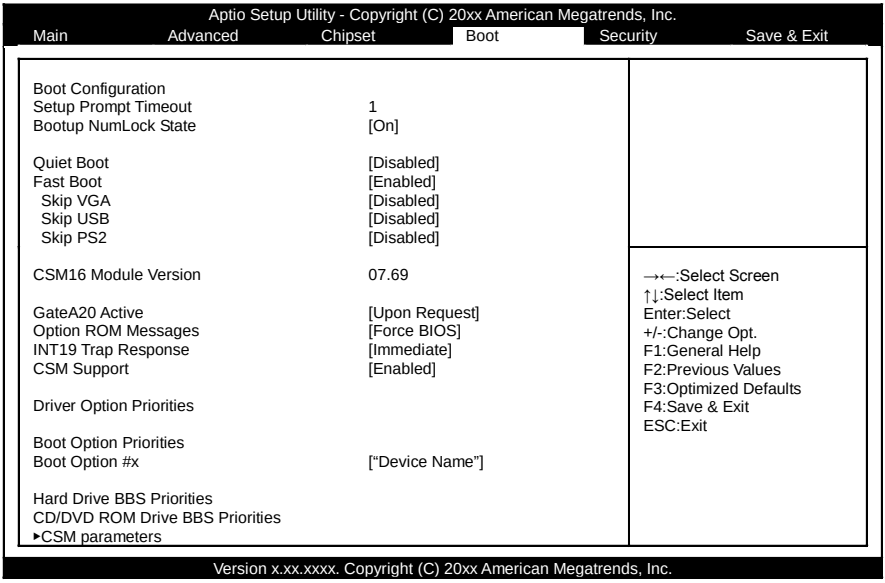


Figure 5.24. Screen with "Fast Boot" Set to "Enabled"

The settings that can be configured when "Fast Boot" is set to Enabled are described in the table below.

Table 5.17. iSmart Controller [Screen with "Schedule Slot" Set to "Power On"]

Item	Options	Description
Skip VGA	Disabled Enabled	
Skip USB	Disabled Enabled	
Skip PS2	Disabled Enabled	

The following sub items are available :

CSM parameters
OpROM execution, boot options, filter, etc.

CSM parameters

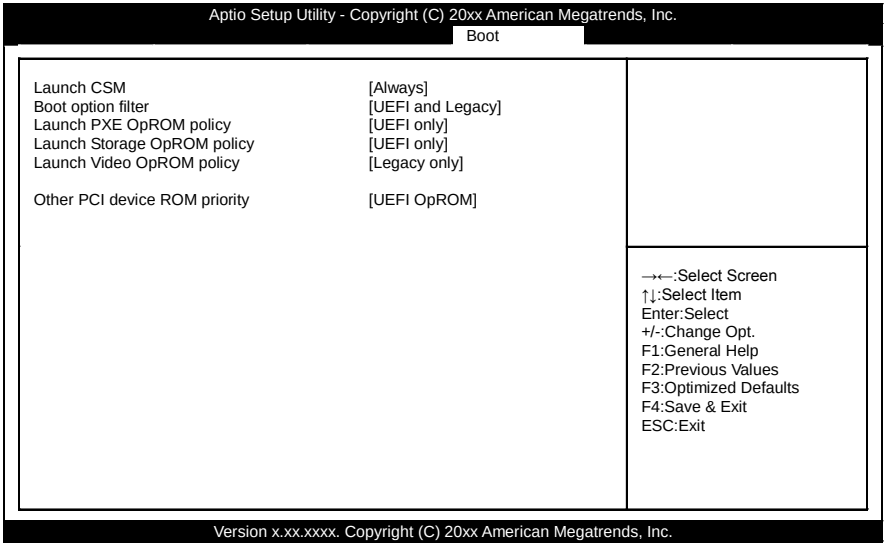


Figure 5.25. CSM parameters

The setting that can be selected on the CSM parameters screen is described below.

Table 5.18. CSM parameters

Item	Options	Description
Launch CSM	[Always] Never	This option controls if CSM will be launched.
Boot option filter	[UEFI and Legacy] Legacy only UEFI only	This option controls what devices system can boot to.
Launch PXE OpROM policy	Do not launch [UEFI only] Legacy only	Controls the execution of UEFI and Legacy PXE OpROM.
Launch Storage OpROM policy	Do not launch [UEFI only] Legacy only	Controls the execution of UEFI and Legacy Storage OpROM.
Launch Video policy	Do not launch UEFI only [Legacy only]	Controls the execution of UEFI and Legacy Video OpROM.
Other PCI device ROM priority	[UEFI OpROM] Legacy OpROM	For PCI devices other than Network, Mass storage or Video defines which OpROM to launch.

Security

Use this menu to configure system security settings.

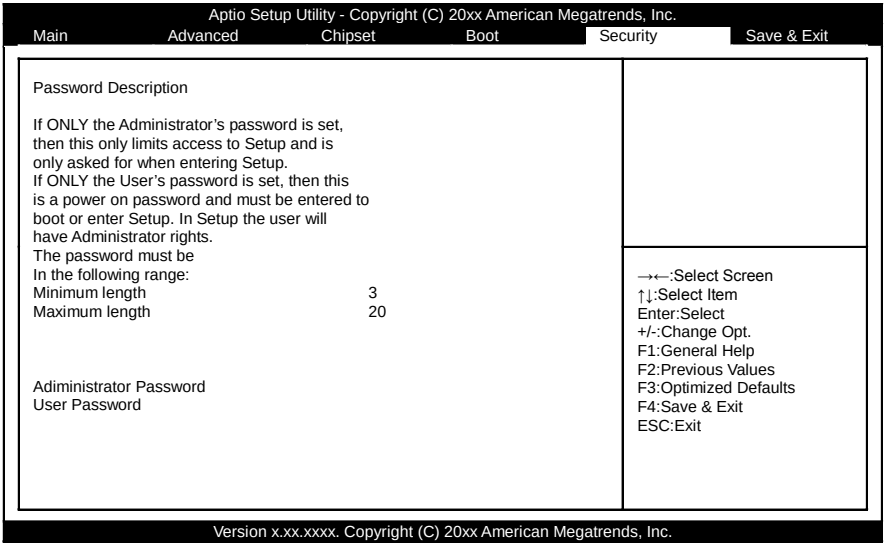


Figure 5.26. Security menu

The following items are available:

Administrator Password

When you press <Enter> on this item, you are required to input the password as below.

Create New Password	[****]
Confirm New Password	[****]

Enter a password of between 3 and 20 characters twice.

To nullify the password, go to the Administrator Password Input Screen again.

Enter Current Password	[****]
Create New Password	[ ]
Confirm New Password	[ ]

When you input old password in the initial item and then press <Enter> by inputting nothing to the new password item, the password will be nullified.

User Password

When you press <Enter> on this item, you are required to input the password as below.

Create New Password	[****]
Confirm New Password	[****]

Enter a password of between 3 and 20 characters twice.

Follow the same procedure as Administrator Password to nullify the password.

⚠ CAUTION

Be careful to not forget the password. If you forget the password, the product will have to be repaired.

Save & Exit

Use this menu to load/save settings changes, and exit the setup menu.

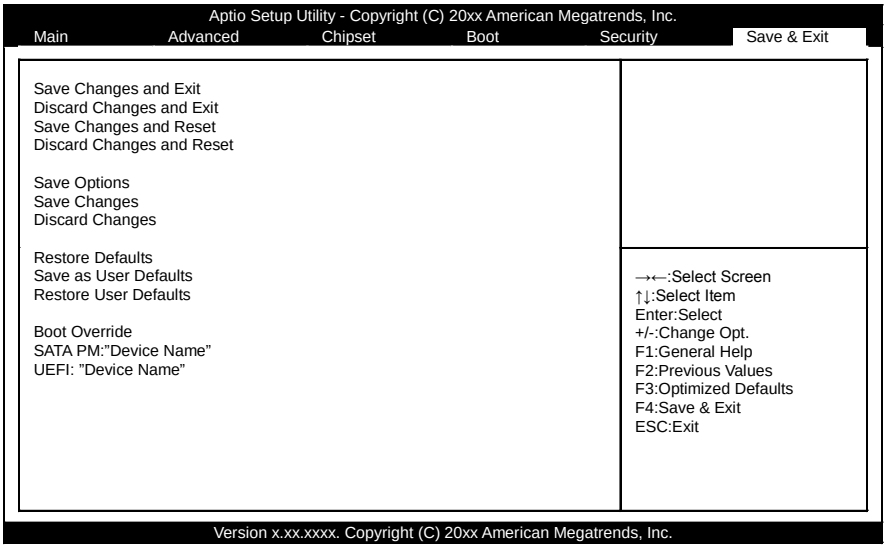


Figure 5.27. Save & Exit menu

The following items are available:

Save Changes and Exit

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Save & Exit Setup
Save configuration and exit?
[Yes] [No]

Select "[Yes]" to record the selections that you made on the menu to the FLASH ROM. Depending on the changed items, the system may restart. The next time the computer is booted, the BIOS configures the system based on the configuration stored in FLASH ROM.
Pressing [No], it will return to setup menu.

Discard Changes and Exit

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Exit Without Saving
Quit without saving?
[Yes] [No]

Pressing [Yes] continues to boot the system without saving any changes made in FLASH ROM.

Pressing [No] returns to the setup menu without records in FLASH ROM.

Save Changes and Reset

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Save & Reset
Save configuration and reset?
[Yes] [No]

Pressing [Yes] saves any changes made in FLASH ROM and reboots the system. The next time the computer is booted, the BIOS configures the system based on the configuration stored in FLASH ROM.
Pressing [No], it will return to setup menu.

Discard Changes and Reset

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Reset Without Saving
Reset without saving?
[Yes] [No]

Pressing [Yes] reboots the system without saving any changes made in FLASH ROM.
Pressing [No] returns to the setup menu without records in FLASH ROM.

Save Changes

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Save Setup Values
Save Configuration?
[Yes] [No]

Pressing [Yes] saves any changes made in FLASH ROM and takes you back to the setup menu.
Pressing [No], it will return to setup menu.

Discard Changes

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Previos Values
Load Previous Values?
[Yes] [No]

Pressing [Yes] discards any changes made and takes you back to the setup menu after loading the previous settings saved in FLASH ROM.
Pressing [No], it will return to setup menu.

Restore Defaults

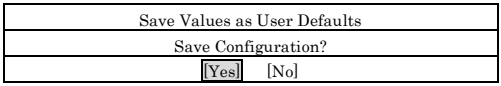
When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults
Load Optimized Defaults?
[Yes] [No]

Select "[Yes]" to load the default values of the factory settings to use in operating the system. This setting will not take effect until you save to FLASH ROM.
Pressing [No] returns to the setup menu without loading.

Save as User Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

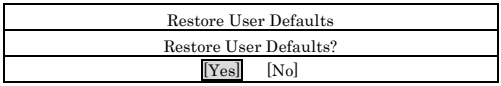


Pressing [Yes] saves the current settings as the user default settings in FLASH ROM and takes you back to the setup menu.

Pressing [No], it will return to setup menu.

Restore User Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:



Pressing [Yes] loads the settings saved in FLASH ROM as the user default settings and takes you back to the setup menu. This setting is not reflected to the FLASH ROM until you save it.

Pressing [No], it will return to setup menu.

Boot Override

Using the cursor to select the device that you want to start and pressing <Enter> key directly boots the selected device regardless of the order set in the Boot menu.

6. Appendix

Battery

Battery Specification

This product uses the following battery.

- Type : Lithium primary battery
- Model : ER 1/2AA
- Maker : VARTA
- Nominal voltage : 3.6V
- Nominal capacity : 1200mAh
- Lithium content : 1g or less

Removing the Battery When Disposing of the Product

Before disposing of the product, follow the instructions given below to remove the battery.

(1) Remove the nine countersunk head screws
- Front (six screws)
- Back (three screws), upper surface only

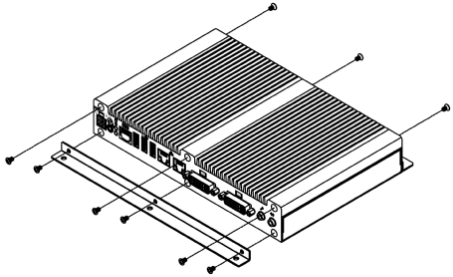


Figure 6.1. Removing the battery 1

(2) Remove the heat sink and the case.

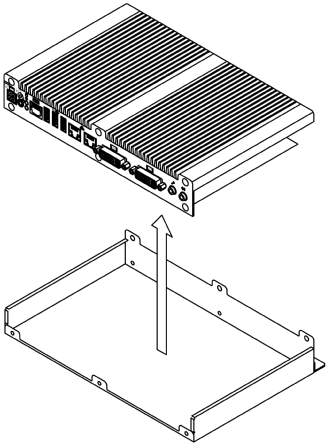


Figure 6.2. Removing the battery 2

(3) Remove the battery.

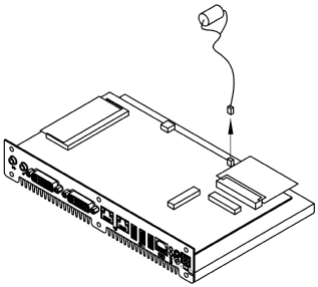


Figure 6.3. Removing the battery 3

Disposing the battery

Dispose the removed battery properly as instructed by local government.

7. List of Options

AC adapter

- PWA-84AWD1 AC adapter (Input : 100-240VAC, Output : 12VDC 7A)

⚠ CAUTION

When using the product to match this AC adapter, ensure that the current consumption with USB +5VDC is 2.7A or less in total for the three ports.

RS-232C D-sub 9pin conversion cable

- IPC-RJ50/9F-020 : RJ-50(10pin) - D-sub (9pin) conversion cable

⚠ CAUTION

Precautions when using options not made by CONTEC

- When you use options not made by CONTEC, the product may not operate correctly and there may be limits on the product's functions.

* For more information on this options, see the Contec's website.

DS-380D Series

User's Manual

DS-380D-DC741D
DS-380D-DC741E
DS-380D-DC7512
DS-380D-DC7516
DS-380D-DC7517
DS-380D-DC7518

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Japanese http://www.contec.co.jp/

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