exenta

Intel® J4125/ Core 8/9/10th Panel PC

CTXN SERIES

User Manual

Disclaimer

The Company reserves the right to change this manual, subject to subsequent changes without notice. It shall not be responsible for any direct, indirect, intentional or unintentional damage or hidden danger caused by improper installation, improper use or overspecification use.

Before ordering the product, please ask the dealer to see whether the product performance meets your ne

Indice

1 Product introduction

CTXN is the new Exenta Series of Panel PC with the Intel J4125 and Core i3/i5/i7 processor, SO DIMM DDR4 Memory, Support for double display, Dual SSD storage, Wide voltage of 9-36V input, With a compact, fanless, high computing performance characteristics, Front panel protection class IP65, die-cast aluminum alloy body and full plane 5-line resistance or capacitive touch screen, With the waterproof and dustproof function.Applicable to the harsh industrial environment.

Applications

factory automation
System monitor
Self-service terminal
Wind power monitoring
Environmental monitoring
Coal mine monitoring
mechanical equipment
petroleum drilling
Pharmaceutical equipment
vehicle

1.1 Packaging content

Make sure that the following items are included randomly before calling on. If any of the following items is missing or damaged, please contact your sales representative.

Standard parts provided within product box
Panel PC CTXN
.52-Inch hard disk bracket
The AC power supply adapter
Install snap, remote switch terminals and screws
Touchpen

Optional devices

Options
United States standard power cable
European standard power cable
Daily standard power line
wireless network adapter
VESA75 Stent

1.2 Product specifications (Standard versions in Italy)

Common CTXN features - Fanless		
Available versions	Celeron J4125	Intel Core i5 8260U e i7 8565U
Screen size	10" wide, 12" 4:3, 15" 4:3, 15.6" wide, 17" 4:3, 19" 4:3, 21.5" wide	
Touch screen	Resistive 5 wires or capacitive multitouch	
RAM memory	DDR4 standard 8GB	DDR4 up to 6GB (standard 8GB for i5 and 16GB for i7)
Storage	1xM.2 2242/2260/2280 SATA, 1x 2.5" SATA, 1xM.2 2280 NVME (storage standard 256GB SSD)	
Expansion slot	1* Mini PCIE full size for SIM 3G/4G/5G or half size for WiFi and Bluetooth (WiFi built in as standard)	
Ethernet	2* 10/100/1000 Mbps controller INTEL I225V (+ 2 optional ports)	
I/O	2* USB 3.0 + 4* USB 2.0	4* USB 3.0 + 2* USB2.0
	6 serial comunication ports + 1* 10 bit GPIO	
	HDMI VIDEO OUT	
Power supply	DC 9-36V, connettor 4 pin aviation. External power supply included	
Environmental conditions	Standard operating temperature -10/60°C relative humidity 95% at 40°C.	
Mechanical features	Front protection IP65 - Panel or VESA mounting. Full aluminium case	
Certifications	CE/FCC/ROHS/CCC	
OS	Standard Windows 10 IOT Enterprise - Windows 10 Professional - Linux	

SYSTEM	
processor	Celeron J4125 (standard) Intel® Core i5-8260U 1.6GHz ,up to 3.9GHz (standard) Intel® Core i 7-10210U 1.6GHz ,up to 4.2GHz Intel® Core i 7-10610U 1.8GHz ,up to 4.9GHz Intel® Core i 7-1135G7 2.4GHz ,up to 4.2GHz Intel® Core i 7-1165G7 2.4GHz ,up to 4.7GHz
System memory	DDR4 S O-DIMM X 2
Network	2x 2.5 GbE RJ45 Intel ® i225V (4 x 2.5GbE RJ45 Intel i225V)
I/O joggle	2 x 3-wire COM3 & COM4 RS-232 / 485 Phoenix terminal 4 x USB2.0 , 2 x USB3.0 (J4125/J6412) 2 x USB2.0,4 x USB3.0 (8th / 10th / 11th Gen intel Core i5 / i7) 2 x DB-9 COM1&COM2,RS-232/422/485 1 x Audio Line-out 2 x 8Ω 1W power amplifier output (optional) The 1 xAT / ATX dial-up switch 1 x HDMI 1 x extended IO: integrated 4-line 3-line COM, 10-line GPIO, 1 remote switch
memory	1 x M.2 2242/2260/2280 SATA 1 x SATA(2.5'' SATA) 1 x M.2 2280 (Support for NVME protocol)
expansion slot	1 x M.2 3042 / 3052 3G / 4G / 5G module, onboard SIM card slot 1 x M.2 2230 WiFi by Bluetooth
support system	Windows ® 10/11, WES 10, LINUX
Power Source	
power input	9 ~ 36 VDC insertion

Construction	
front panel	alufer
back panel	alufer
IP levels of protection	Front panel, IP65
Environmental conditions	
working temperature	-10℃ to 60℃
Storage temperature	-30℃ to +70℃
Store humidity	10~90% @30℃, with no condensation
Certification	
safety standard	CE
EMC	CE

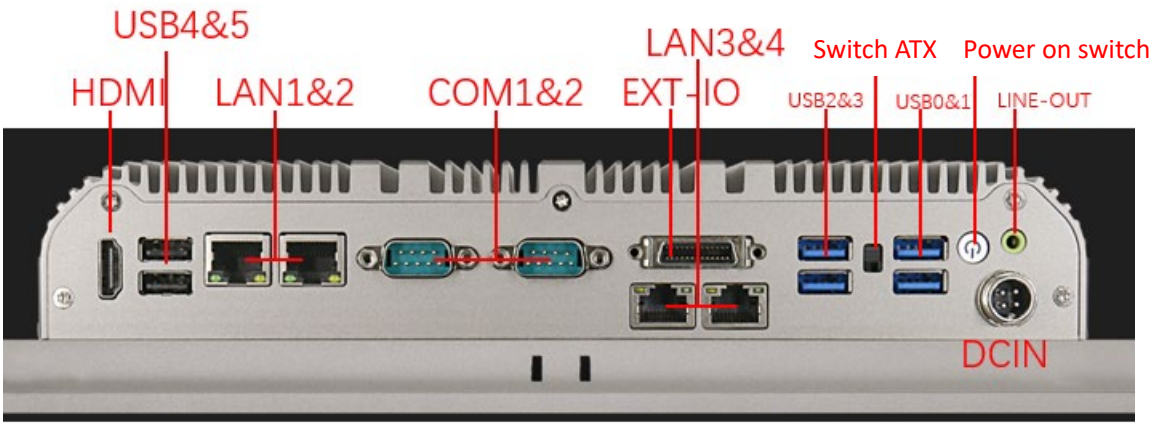
remarks:

(1) With the CPU configuration, I / O panel has 4 USB2.0 ports, 2 USB3.0 ports; Core series CPU, with 4 USB3.0 ports and 2 USB2.0

(2) Configure Celeron series CPU products, memory has a DDR 4 memory slot; Core series CPU products, memory has two DDR 4 memory slot

1.3 Interface description

CTXN provides rich I / O interfaces. The functions of each interface are described below, including a flexibly configured I/O interface.

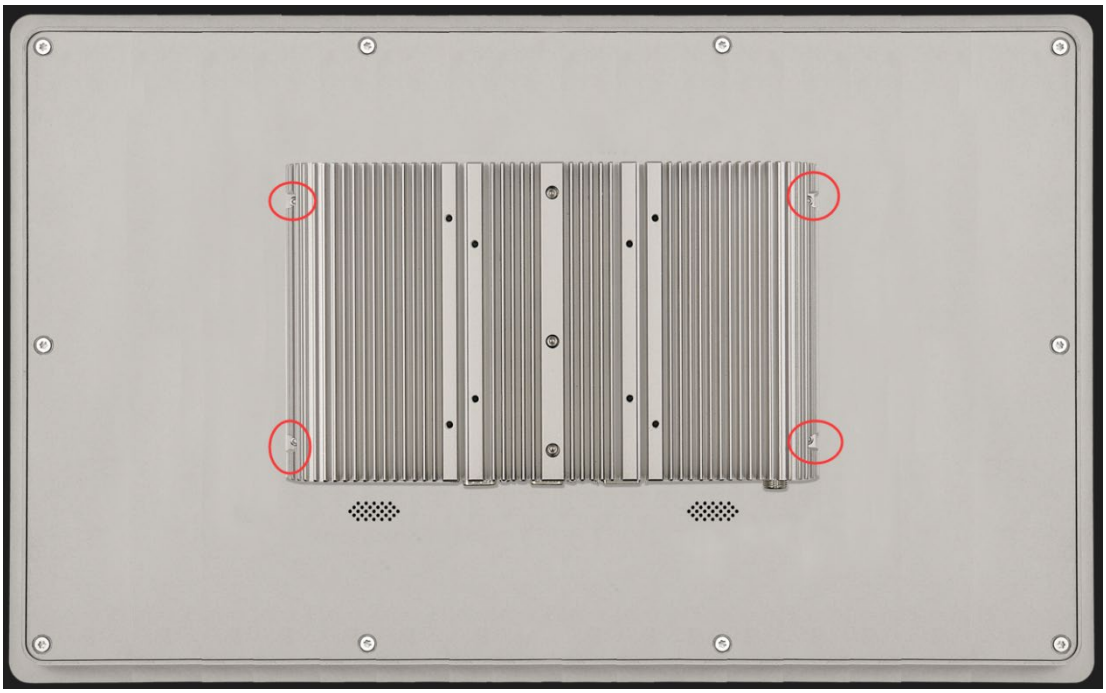


CODICE	**FUNZIONE**
HDMI	HD display interface
USB4&5	USB2.0 X 2
LAN1&2	Intel I225 2.5G Ethernet interface x2
COM1&2	COM1, COM2 interface, can be configured as RS232 / 422 / 485 via BIOS
EXT-IO	Hybrid interface COM3~6 (R S232), GPI 1 ~ 5, GPO 1 ~ 5

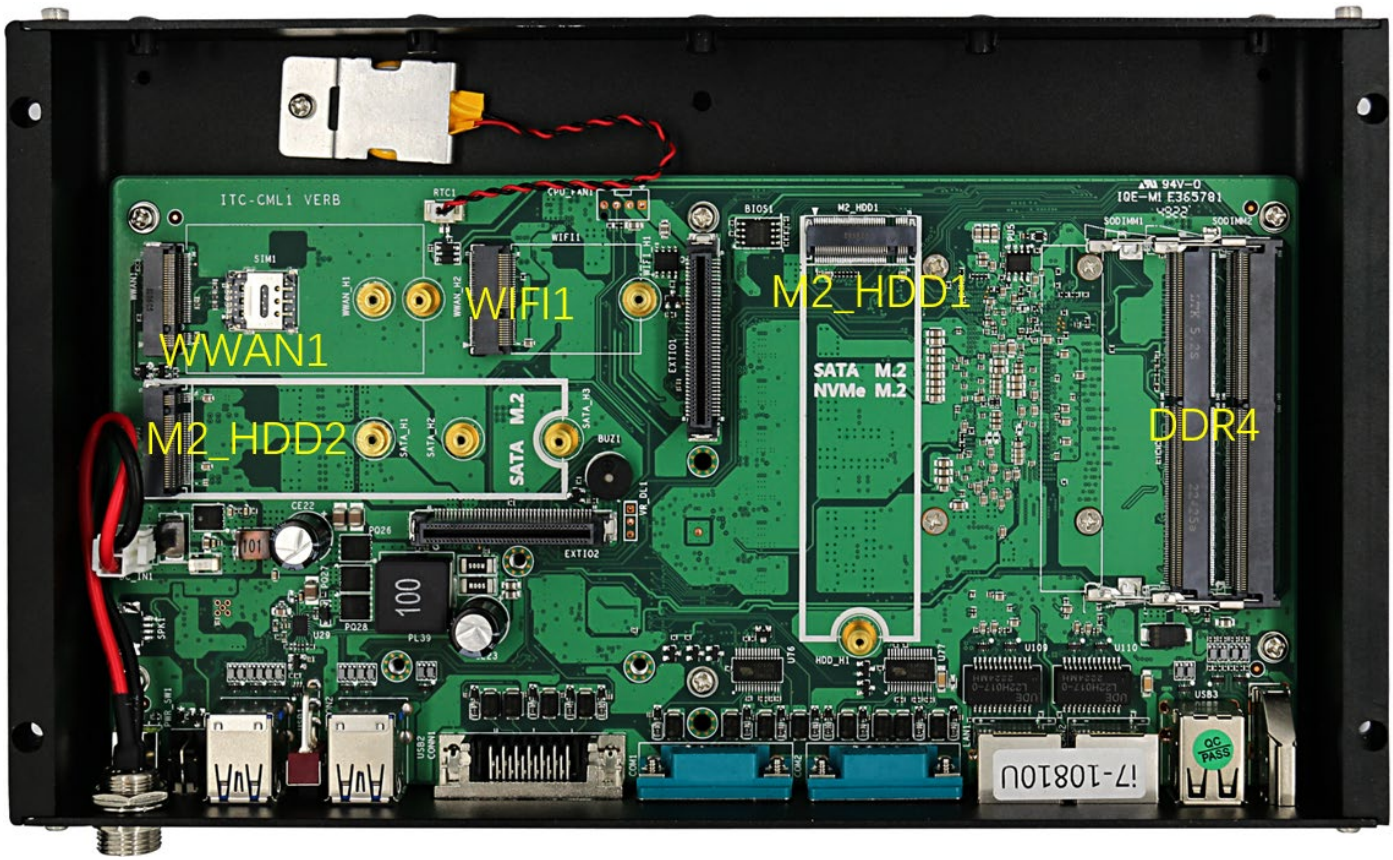
L AN3&4	Intel I 225 2.5G Ethernet interface x2 (optional)
USB2&3	USB3.0 X 2
USB0&1	USB3.0 X 2
Dial switch	AT / ATX switching switch audio output interface
Power ON switch	Boot button
LINE-OUT	Audio output
DC-IN	Power interface
13	The SSD hard disk interface
14	Power amplifier output horn 1W 8 Ω (Optional)
15	power light

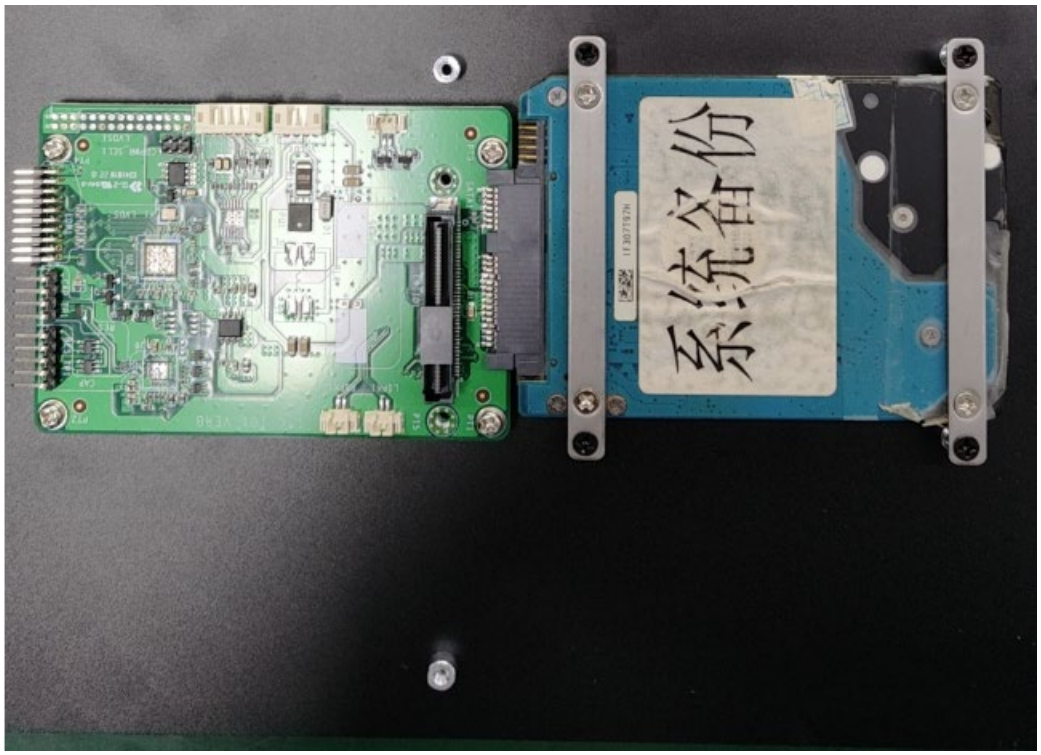
2 Installation mode

The inner hexagon screwdriver removes the 4 screws from the rear baffle and the front panel



2.1 Hard disk, WIFI, 4G, memory installation





M 2 _ HDD 1 supports M.2 (SATA) Hard disk, M.2 (NVM e) Hard drive 2280

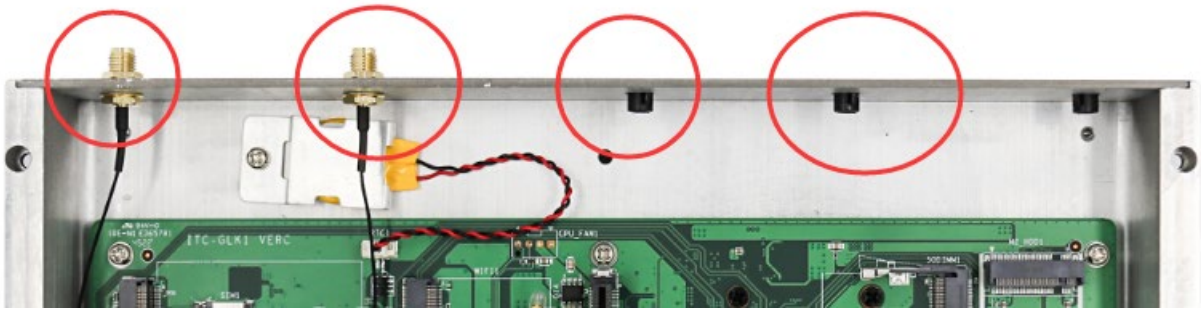
M 2 _ HDD 2 supports M.2 (SATA) hard drives 2240,2260,2280

WIFI1 Supports the M interface WIFI (Bluetooth) module

WWAN1 Support for M.2 Interface 4G or 5G modules (like RM500Q)

The DDR 4 supports the SO-DIMM memory of DDR42133-3200

2.2 Antenna installation

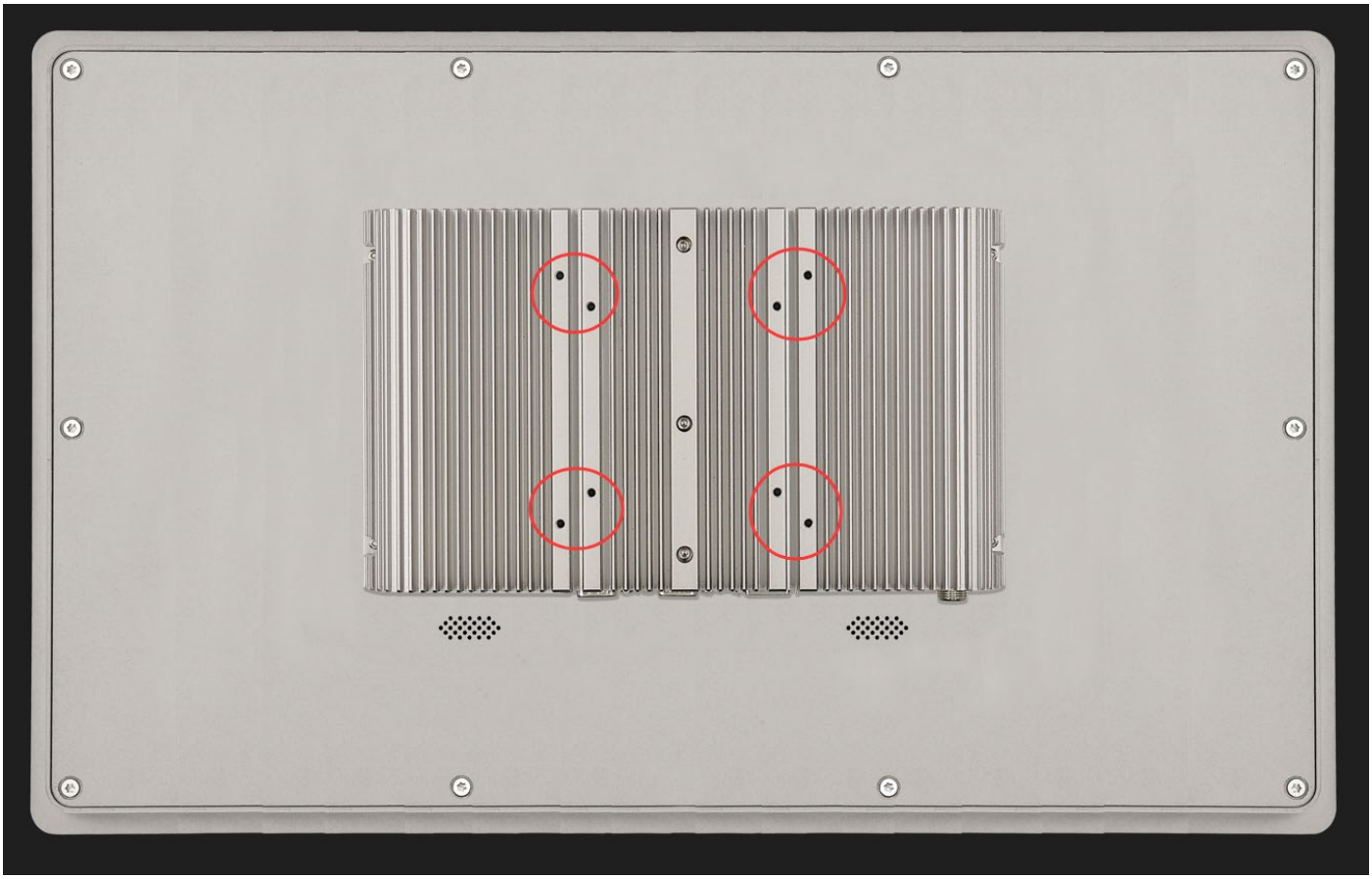


By default, only WIFI, Bluetooth antenna. If the installation of 4G, 5G antenna needs additional consultation

2.3 Installation and fixing of the machine

Take a 10-inch tablet as a model. When installing the panel embedded, there are six butterfly buttons around the machine. When the panel is embedded, these six butterfly buttons are used to fix the fuselage.

VESA75 Installation, on the back of the machine, designed a standard VESA75 installation hole, using this way needs to prepare a VESA75 bracket



3-IO interface

3.1 Serial ports

The CTXN can support up to 6 serial ports, and the following is a list of working modes supported by each serial port:

gorge line / work pattern	COM1	COM2	COM3	COM4	COM5	COM6
RS232	support	support	support	support	support	support
RS485	support	support	nonsupport	nonsupport	nonsupport	nonsupport
RS422	support	support	nonsupport	nonsupport	nonsupport	nonsupport

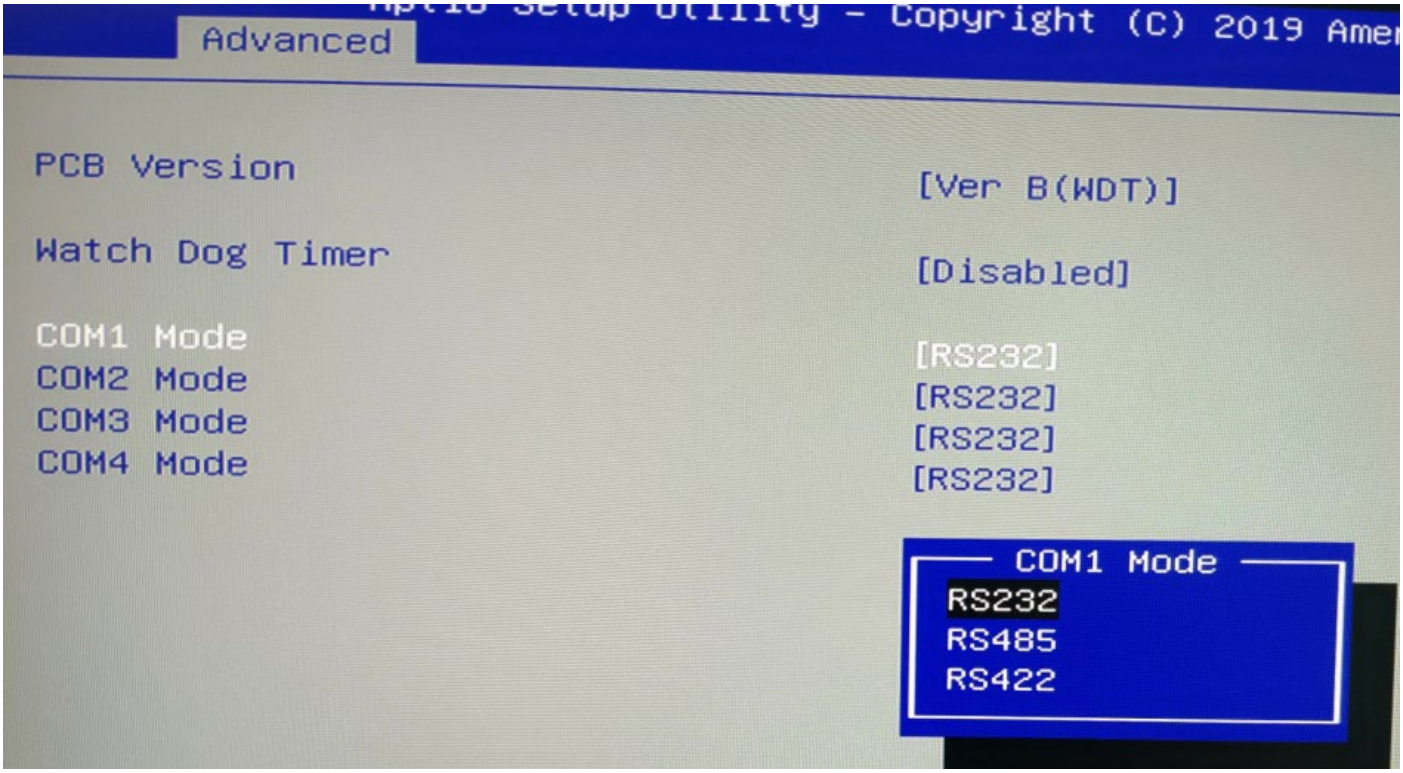
pay attention to:
COM 3 to 6 is a 3-wire serial port (TXD / RXD / GND)
By default, COM 1 to 6 is factory set to RS232 mode;

The pins corresponding to the different interface types are defined in the following table:
COM1, COM2 pin signal definition

	DB9 Pin Name								
Mode	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
RS485	DATA -	DATA +							
RS422	TX -	TX +	RX+	RX-					
RS232	DCD#	RXD	TXD	DTR#	GND	DSR#	RTS#	CTS#	RI# Can be charged

Set up the working mode of COM1,2

Power up the machine, press the Delete button, enter the BIOS Settings interface, and navigate to the following path:
Advanced SIO MISC Configuration COM1 MODE Select the RS232 / 422 / 485 option;



After the BIOS option is set, press F 10, select [YES] in the pop-up dialog box and exit.

3.2 EXT-IO (with flat plate extension cable)

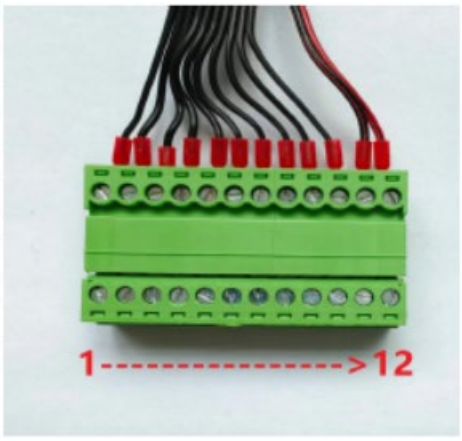
配件1（可选）
4 x DB9 + 2Pin开关
单价：30RMB

配件2（可选）
4 x DB9 + 10 x GPIO + 2Pin开关
单价：50RMB

GPIO使用说明

序号	名称	默认	寄存器	位
Pin 1	GP80	输入	0xA07	bit0
Pin 2	GP81	输入	0xA07	bit1
Pin 3	GP82	输入	0xA07	bit2
Pin 4	GP83	输入	0xA07	bit3
Pin 5	GP84	输入	0xA07	bit4
Pin 6	GP70	输出	0xA06	bit0
Pin 7	GP71	输出	0xA06	bit1
Pin 8	GP72	输出	0xA06	bit2
Pin 9	GP73	输出	0xA06	bit3
Pin 10	GP74	输出	0xA06	bit4
Pin 11	GND			
Pin 12	PWRBTN			

Note:
10路GPIO，默认为5个输入和5个输出，也可以在BIOS SETUP配置成10个输入或10个输出



GPIO, with port access

Access to the output ports:
Using the function outportb(), you can output a byte of data directly to the specified port. To make the corresponding GPO port output low level, write 0 to the corresponding port. For example, the GPO 1 output low level:

TEMP = inportb (0x50c); read into the 0x50c port first
TEMP = TEMP & 0 xfe; then put the bit0 of the 0x50c port into 0
outportb (0x50c, TEMP); write the data to the port

To make the corresponding GPO port output high level, write 1 to the corresponding port, for example, let the GPO 1 output high level:

TEMP = inportb (0x50c); read into the 0x50c port first
TEMP = TEMP | 0x01; then put the bit0 of the 0x50c port into 1
outportb (0x50c, TEMP); write the data to the port

Access to the input port:

Use the function inportb() to read a byte from the port, and then compare to the table above, and take the corresponding bit.

3.3 Watch Dog

```
#define SIO_CONFIG_INDEX 0x2E
#define SIO_CONFIG_DATA 0x2F

void   WatchDogTimer(UINT16 TimerValue) // 1 < TimerValue < 65535 , Unit = Second
{
// Enter Configuration Mode.
IoWrite8(SIO_CONFIG_INDEX, 0x87);
IoWrite8(SIO_CONFIG_INDEX, 0x01);
IoWrite8(SIO_CONFIG_INDEX, 0x55);
IoWrite8(SIO_CONFIG_INDEX, 0x55);

//======================LDN07=================================
//
IoWrite8(SIO_CONFIG_INDEX, 0x07);
IoWrite8(SIO_CONFIG_DATA, 0x07);

//======================WDT=================================
//
IoWrite8(SIO_CONFIG_INDEX, 0x72);
IoWrite8(SIO_CONFIG_DATA , 0x90); //Enable WDT

IoWrite8(SIO_CONFIG_INDEX, 0x74);
IoWrite8(SIO_CONFIG_DATA , (UINT8)((TimerValue & 0xFF00)>>8 )); //MSB

IoWrite8(SIO_CONFIG_INDEX, 0x73);
IoWrite8(SIO_CONFIG_DATA , (UINT8)(TimerValue & 0x00FF));   //LSB
}

void DisableWdt()
{
// Enter Configuration Mode.
IoWrite8(SIO_CONFIG_INDEX, 0x87);
IoWrite8(SIO_CONFIG_INDEX, 0x01);
IoWrite8(SIO_CONFIG_INDEX, 0x55);
IoWrite8(SIO_CONFIG_INDEX, 0x55);

//======================LDN07=================================
//
```

```
IoWrite8(SIO_CONFIG_INDEX, 0x07);
IoWrite8(SIO_CONFIG_DATA, 0x07);

IoWrite8(SIO_CONFIG_INDEX, 0x72);
IoWrite8(SIO_CONFIG_DATA , 0x00); //Disable WDT

IoWrite8(SIO_CONFIG_INDEX, 0x74);
IoWrite8(SIO_CONFIG_DATA , 0x00); //MSB

IoWrite8(SIO_CONFIG_INDEX, 0x73);
IoWrite8(SIO_CONFIG_DATA , 0x00); //LSB
}
```

4 The BIOS function

4.1 Introduction to UEFI

UEFI (Unified Extensible Firmware Interface: standard scalable firmware interface) is a new generation of computer firmware used to replace the traditional BIOS. UEFI firmware is stored in the flash memory of the motherboard. The main functions include: initializing the system hardware, setting the working state of each system component, adjusting the working parameters of each system component, diagnosing the functions of each component of the system, and reporting faults, providing hardware operation control interface to the upper software system, guiding the operating system, etc. UEFI provides users with a menu-type man-machine interface to configure the system parameters, control the power management mode, and adjust the resource allocation of the system equipment. Setting the parameters of UEFI correctly makes the system work stably and reliably, while also improving the overall performance of the system. Inappropriate or even incorrect UEFI parameter setting will greatly reduce the system performance, make the system work unstable, or even unable to work normally.

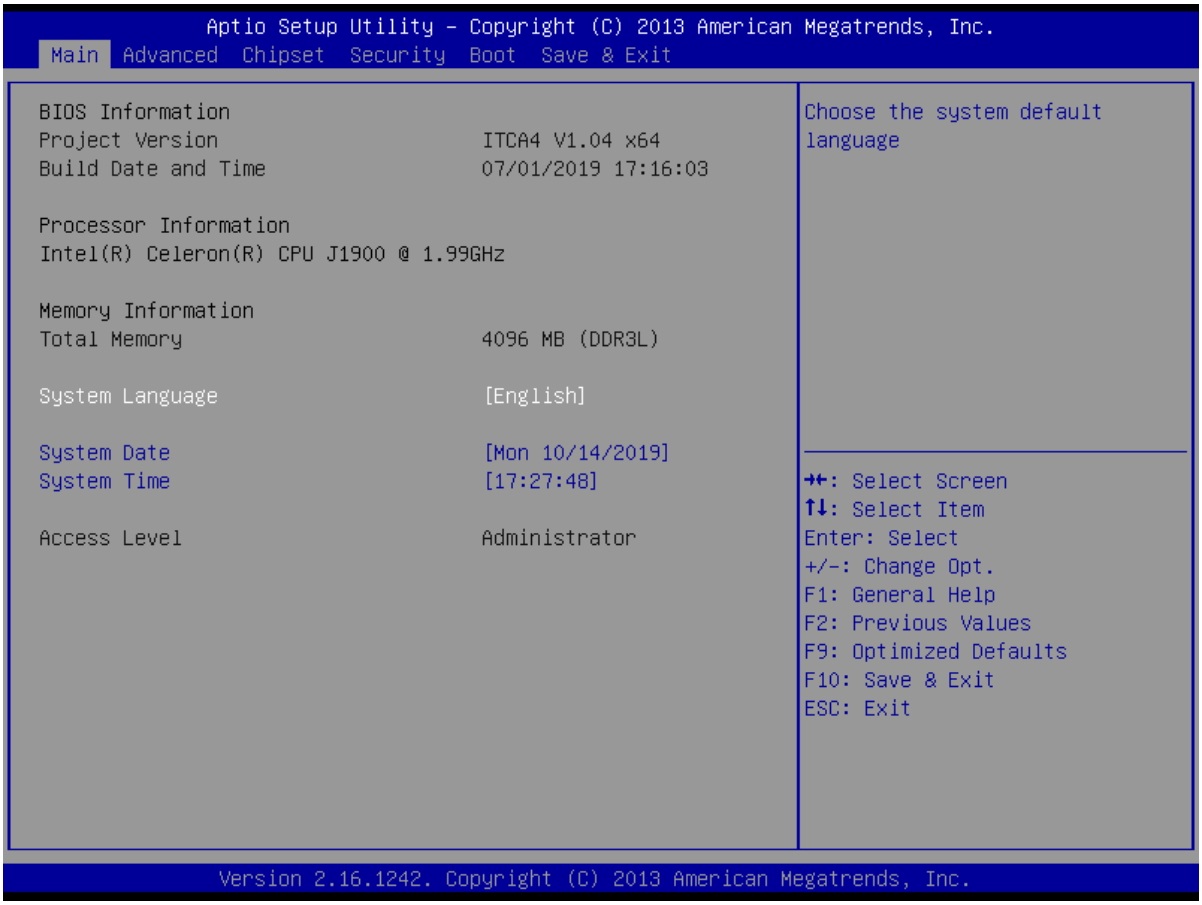
4.2 UEFI, and the parameter setting

Whenever the system is turned on and the power is turned on, the information entering the UEFI setting program can be seen. At this point (no other time is invalid), press the key specified by the prompt message (usually <Del> or <F2> key) to enter the UEFI setting program. All setting values (except date, time) modified by the UEFI setting program are stored in the flash memory of the system, with the date and time

Save in the CMOS memory of the system, which is battery powered by the storage, and even if the external power is cut off, its content is not lost unless the CMOS content is cleared.pay attention to! The setting of UEFI directly affects the performance of the computer. The wrong parameters will damage the computer or even boot up. Please use the UEFI built-in default to restore the normal operation of the system. As the company constantly develops and updates UEFI, its Settings interface will be slightly different. The following pictures for your reference may not be exactly the same as the UEFI Settings program you are currently using.

4.3 Basic function settings of UEFI

When the SETUP program starts, you can see the main screen as follows:



4.3.1 Main

System Date

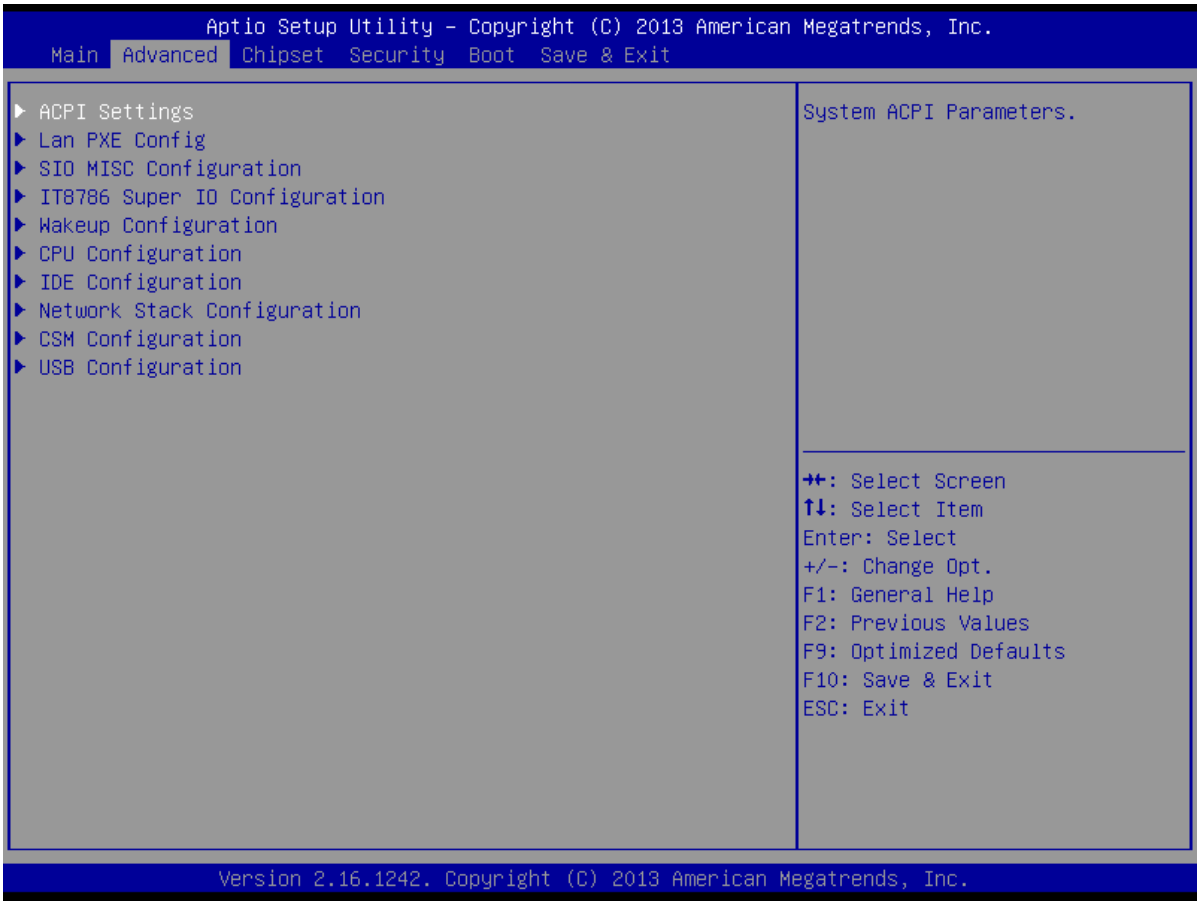
Select this option to use the <+> / <-> to set the current date. Prespressed in month / day / year format. The reasonable scope of each project is: Month / month (1-12), Date / day (01-31), Year / year (maximum to 2099), Week / week (Mon.～Sun.)。

System Time

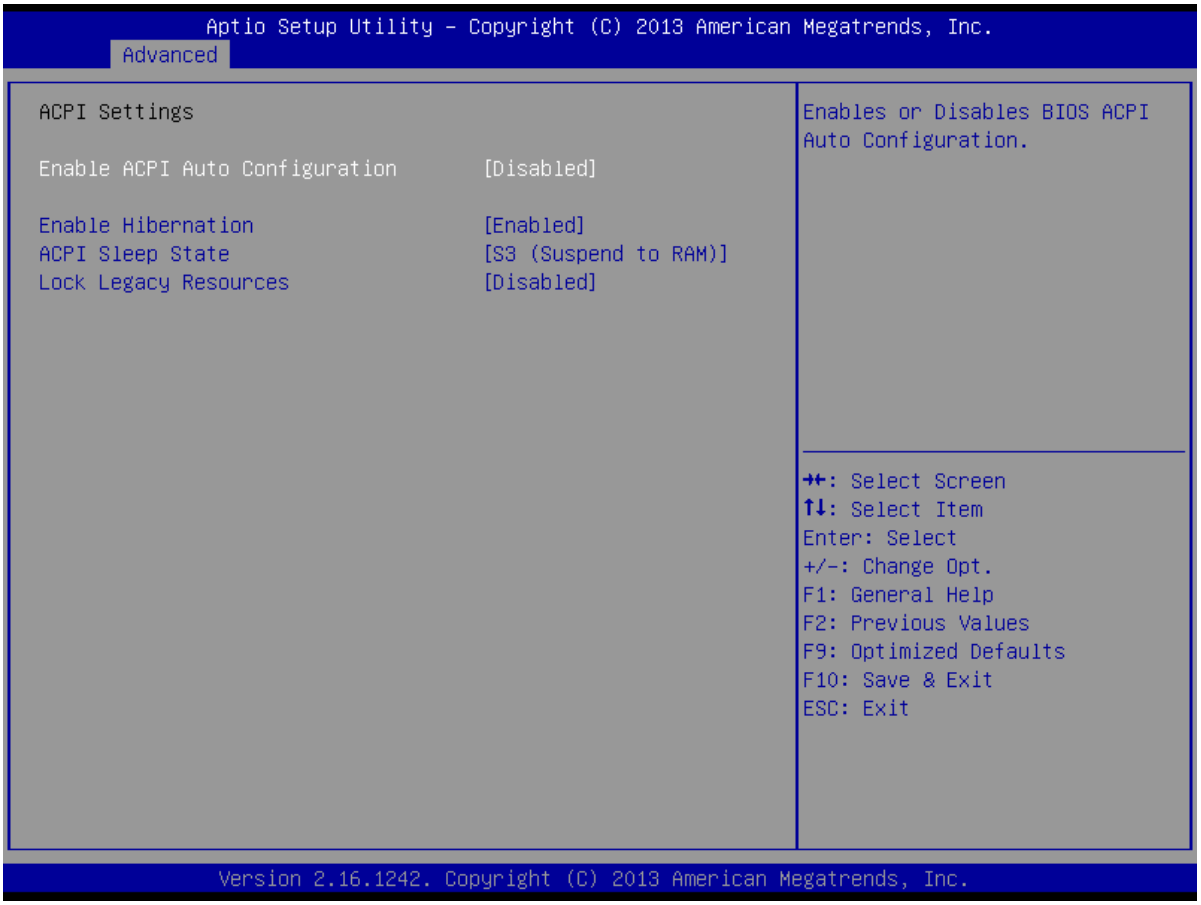
Select this option and use <+> / <-> to set the current time. It is expressed in the time / minute / second format. The reasonable range of each item is: Hour / hour (00-23), Minute / minute (00-59), Second / second (00-59).

PS: The RTC time of the 6,7,8 generation core will be adjusted according to the OS.

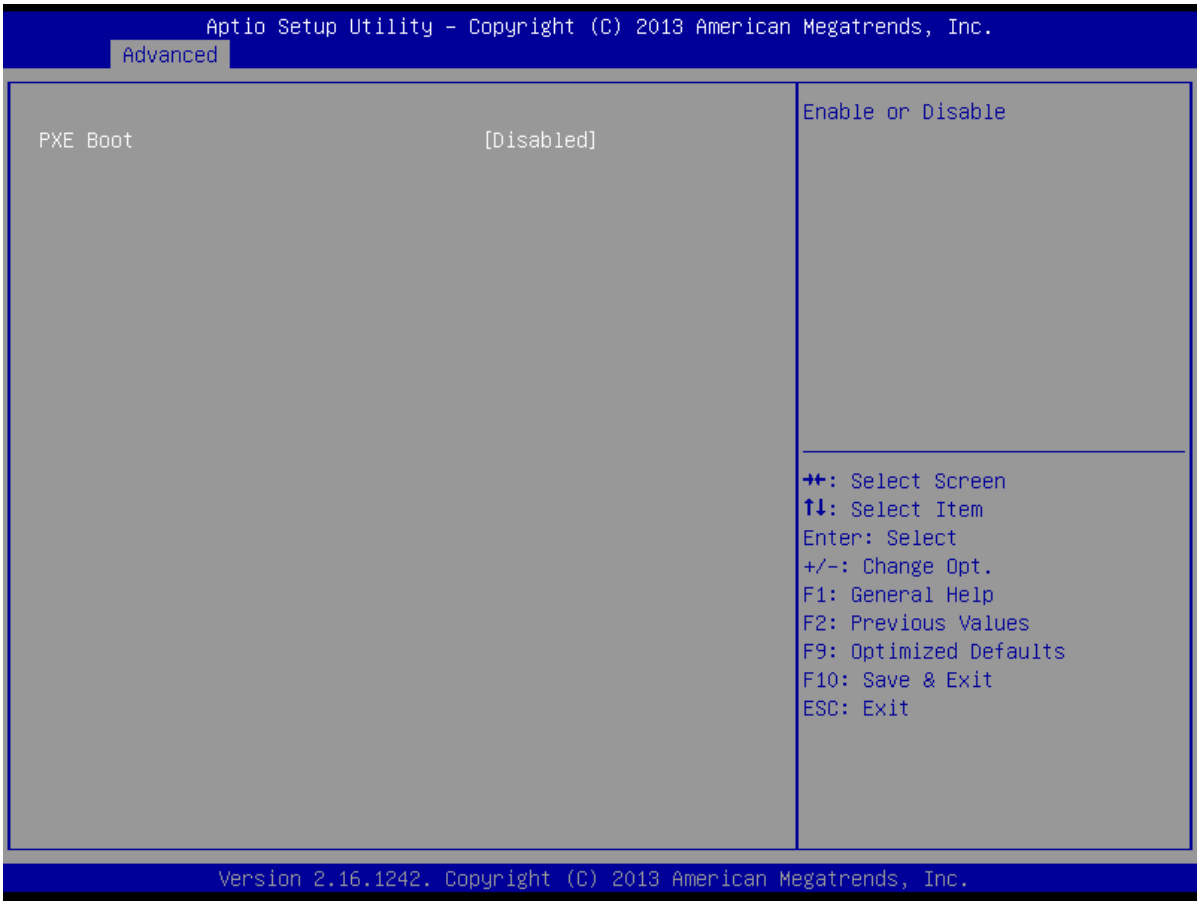
Advanced



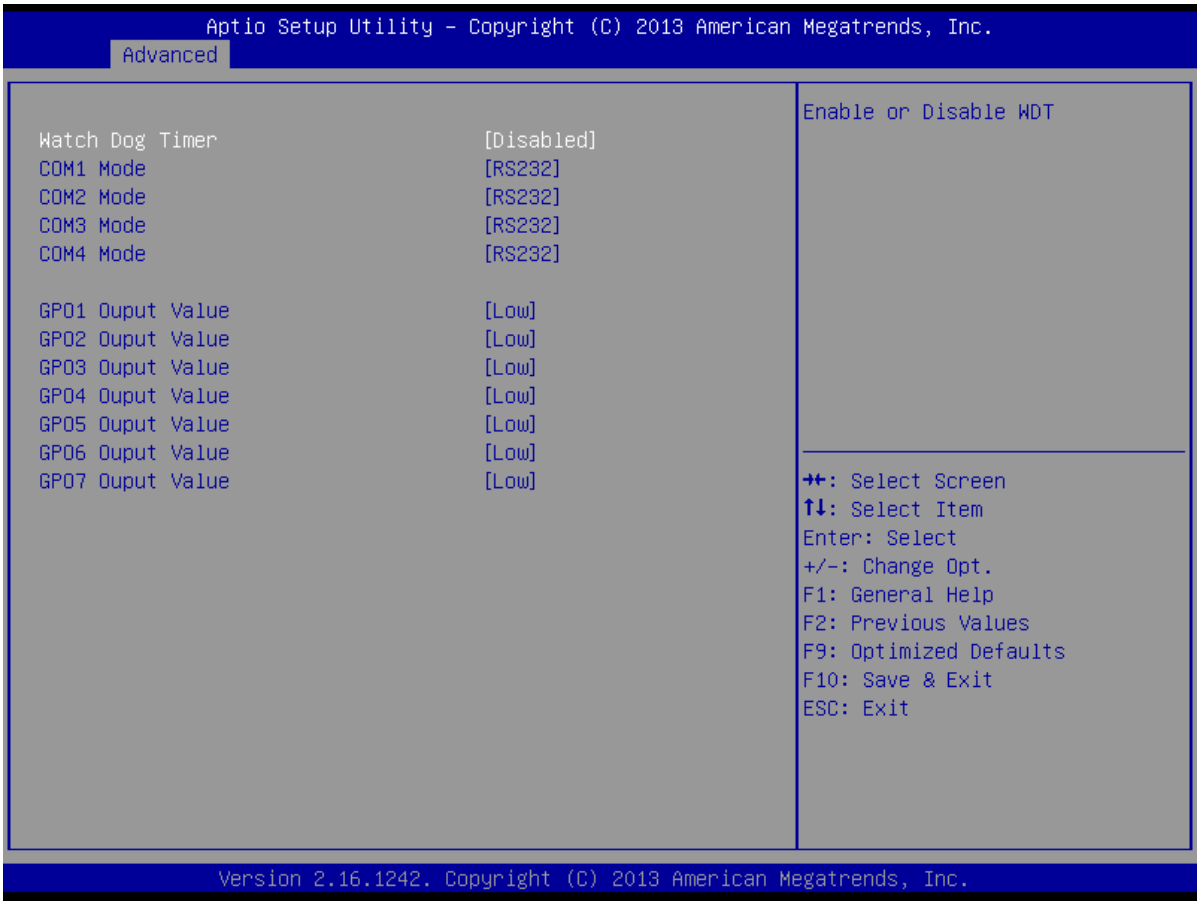
ACPI Settings



Lan PXE Configuration



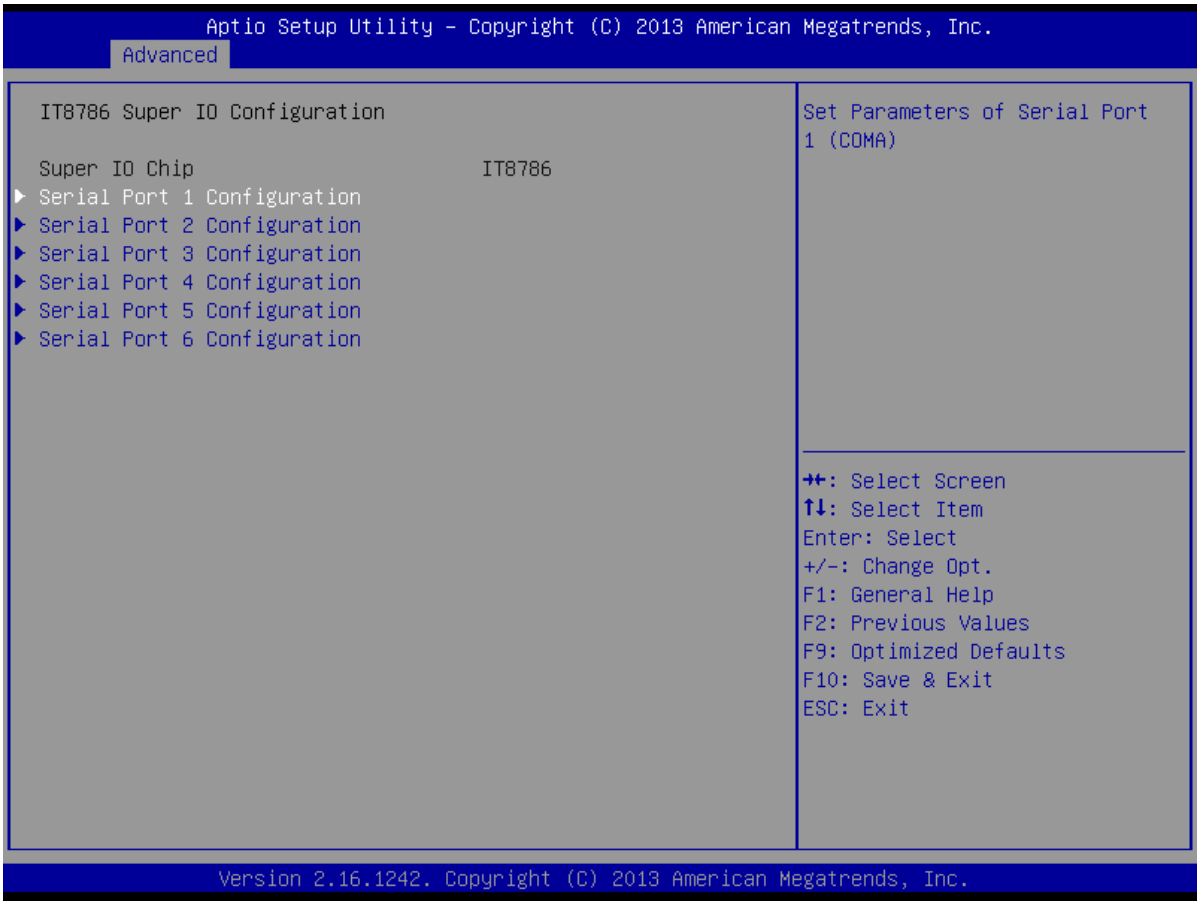
S IO MISC Configuration



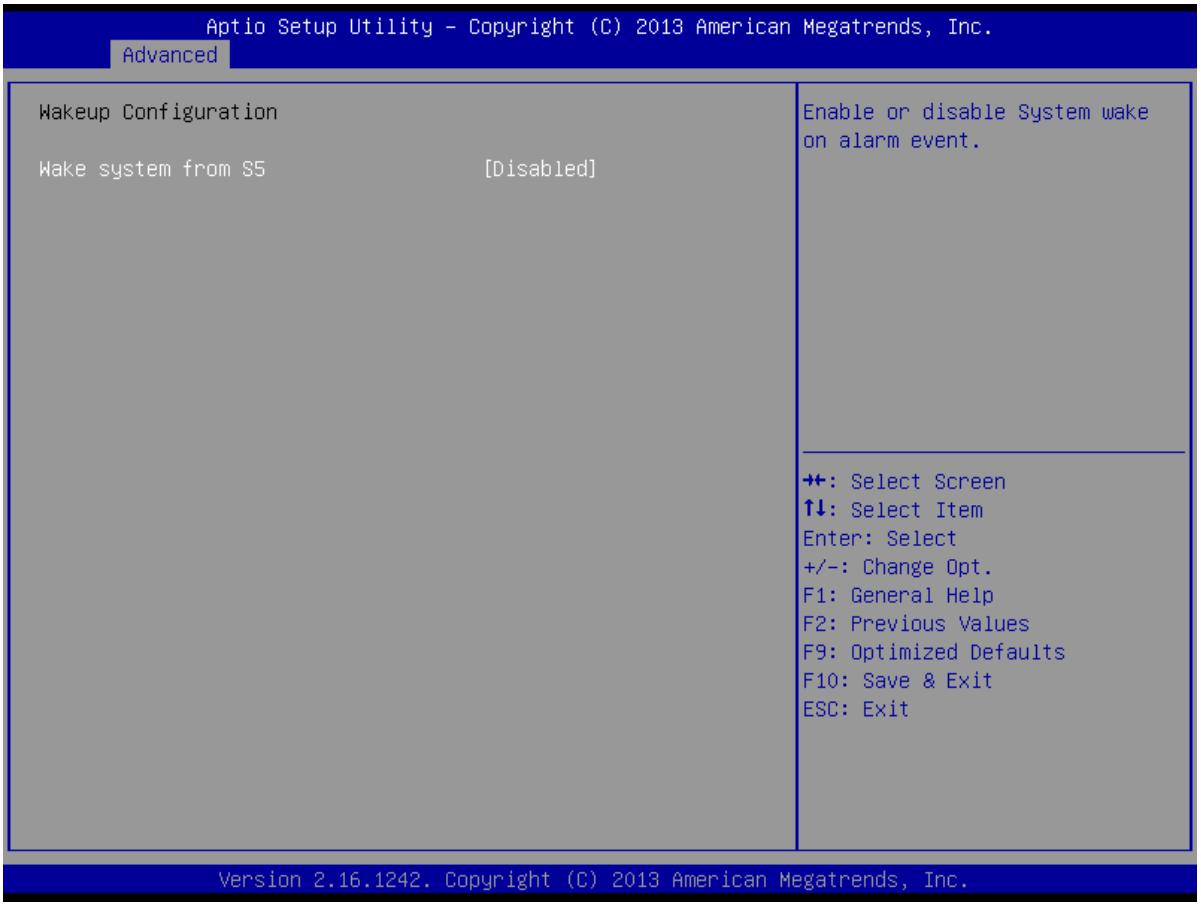
Watch Dog Timer

When set to Enable, you can set the minutes (seconds)

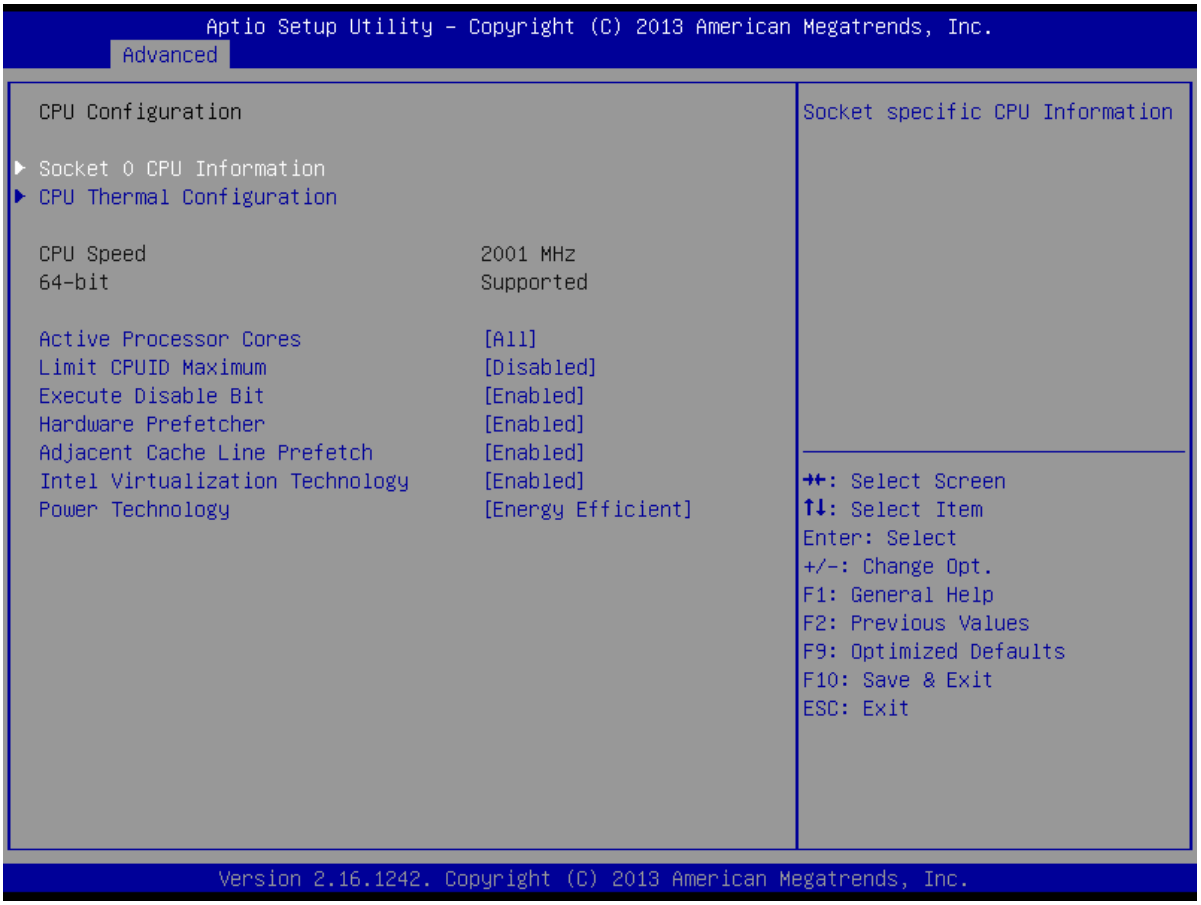
IT8786 Super IO Configuration



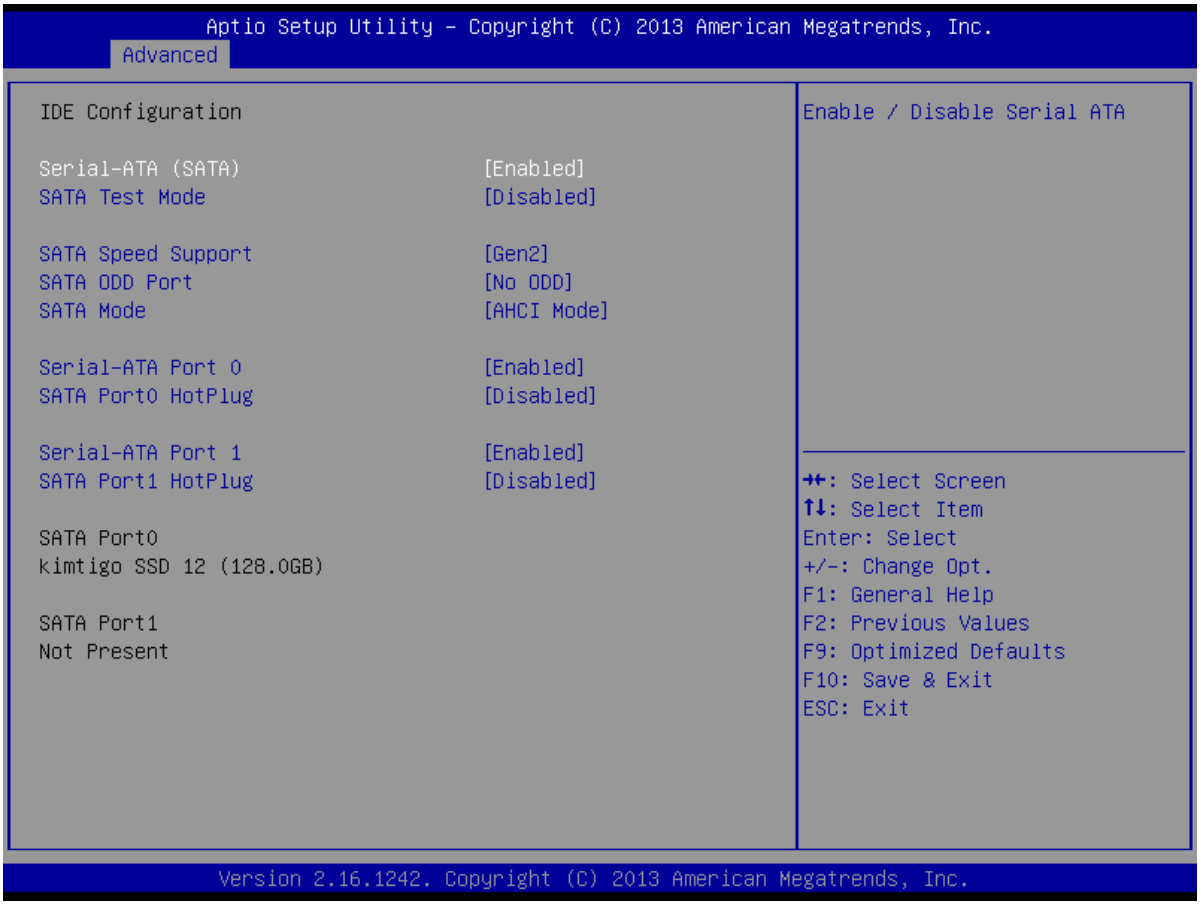
Wake up Configuration



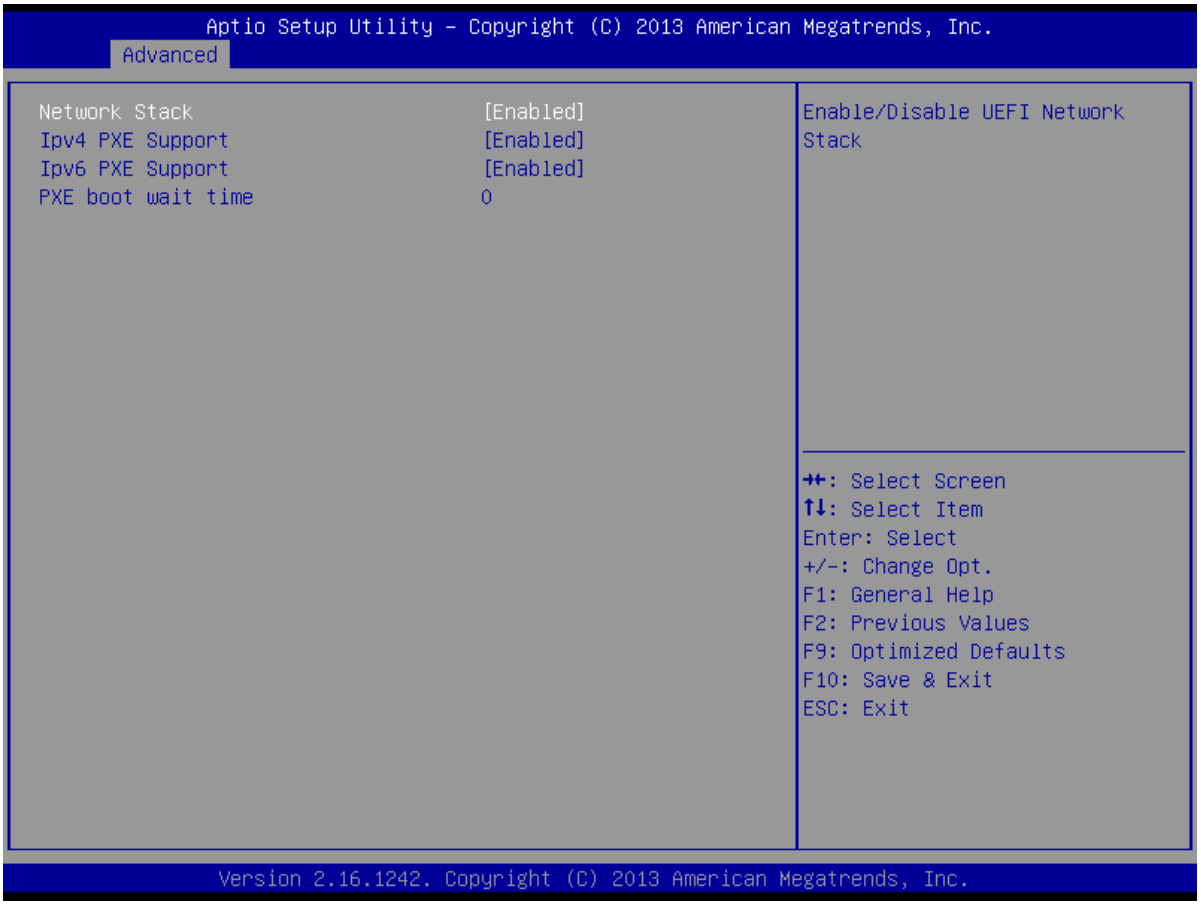
CPU Configuration



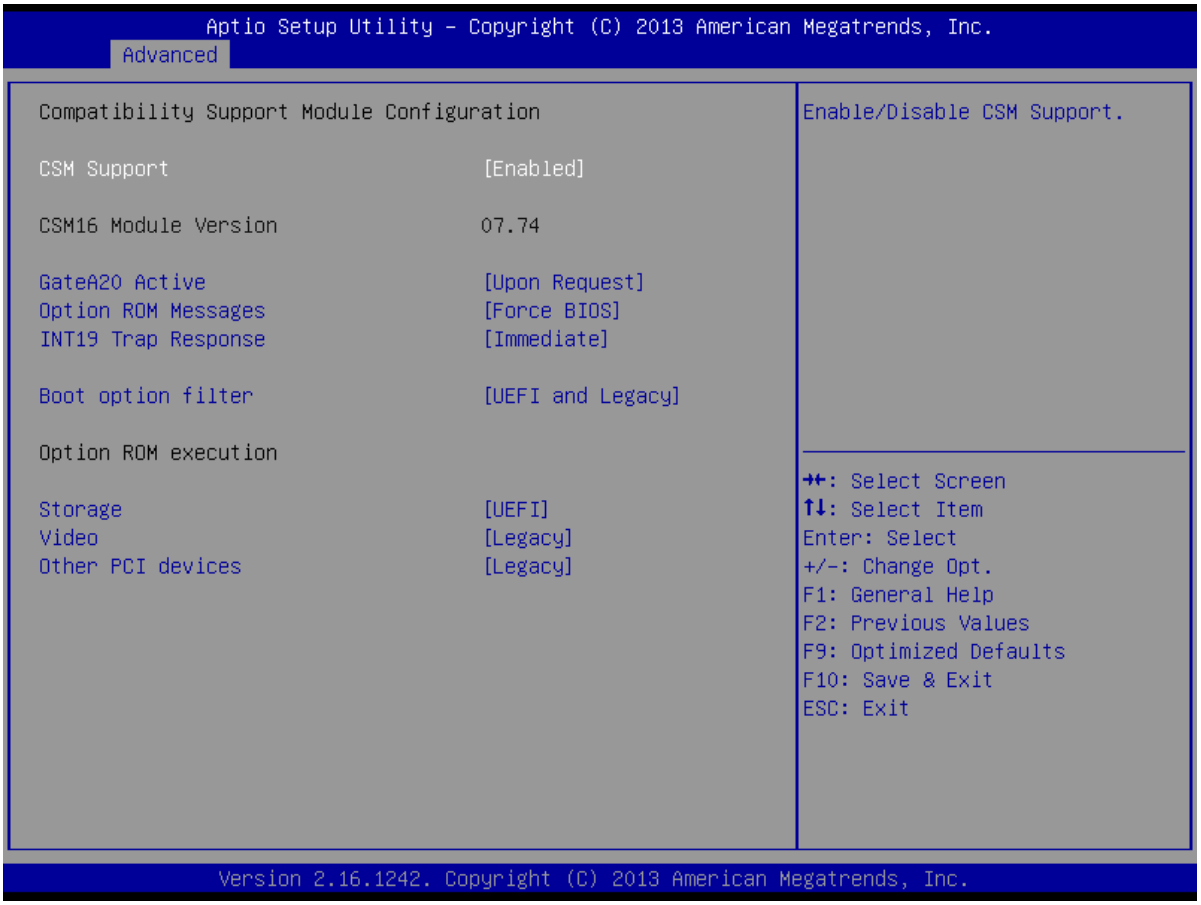
IDE Configuration



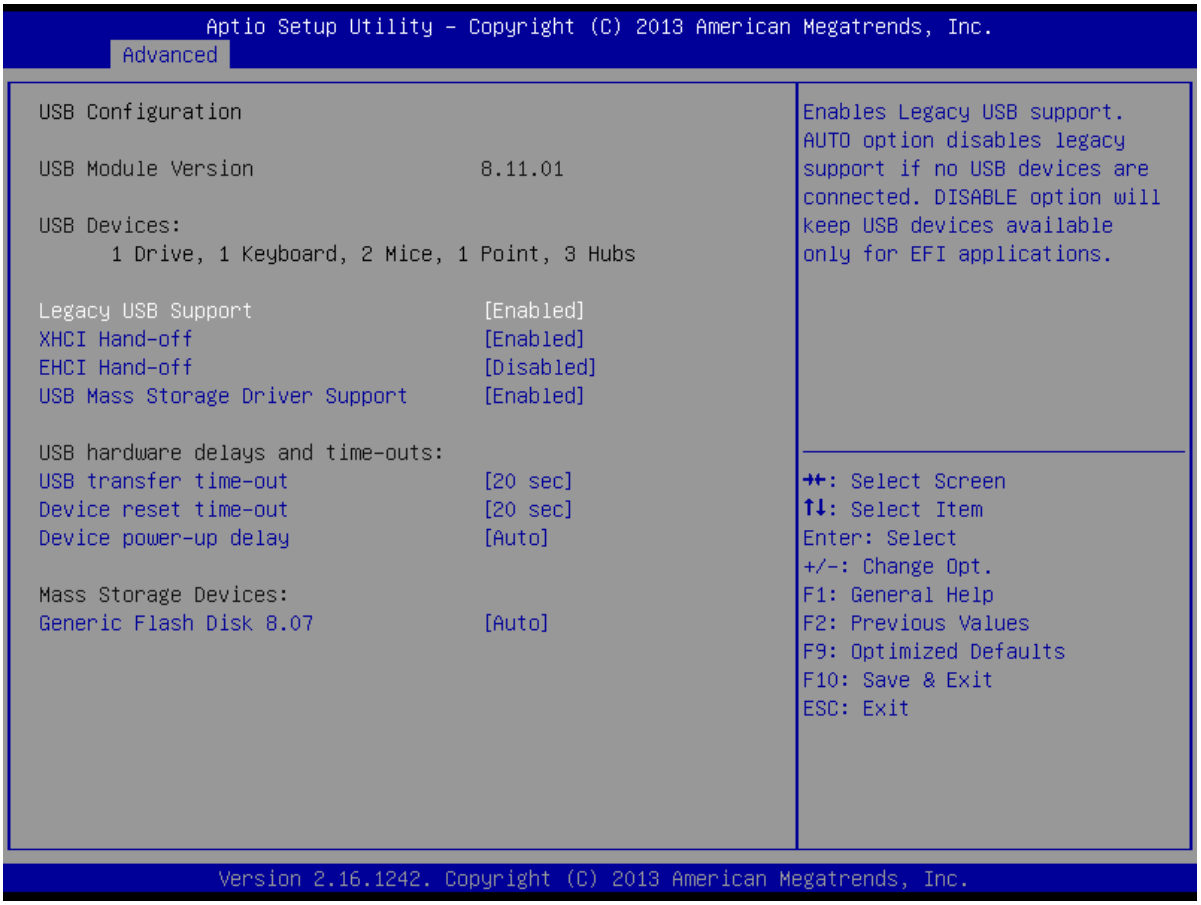
Network Stack Configuration



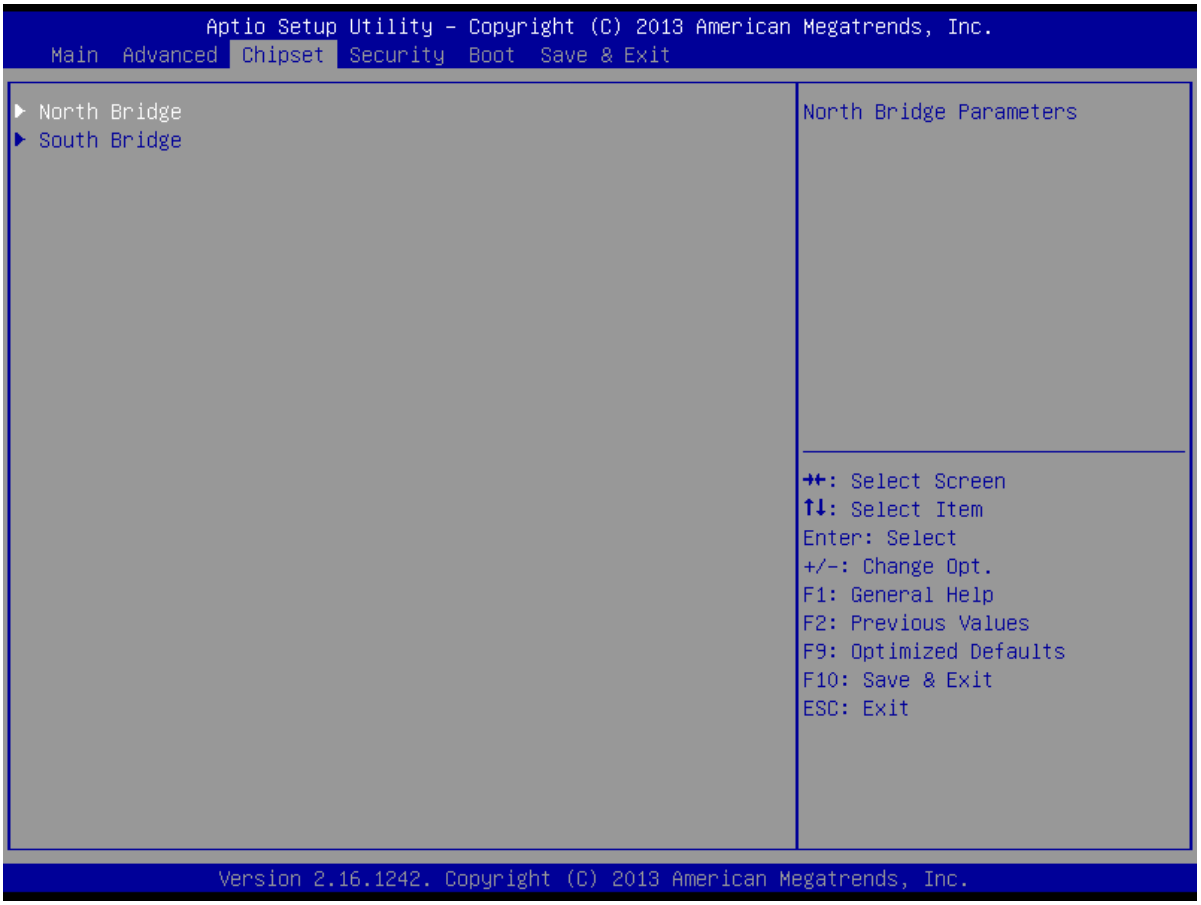
CSM Configuration



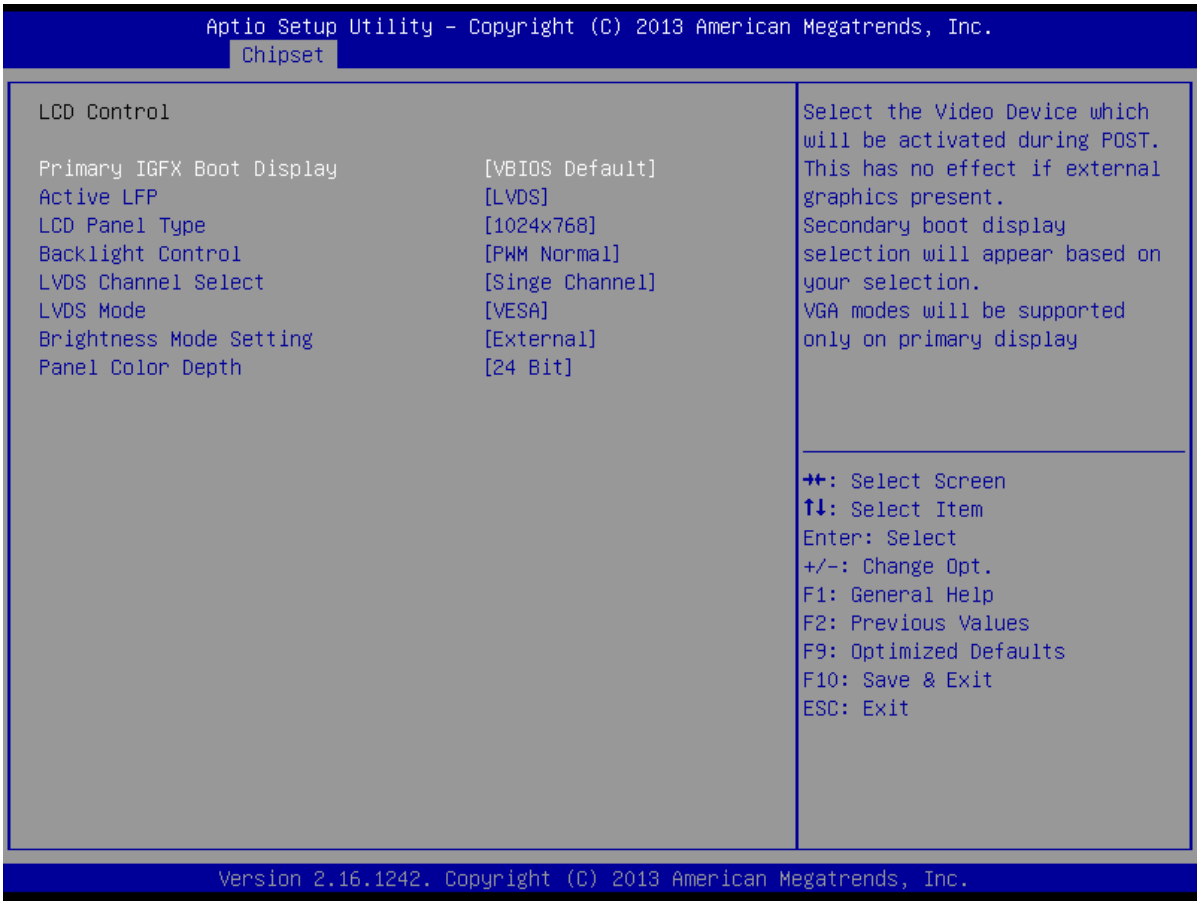
USB Configuration



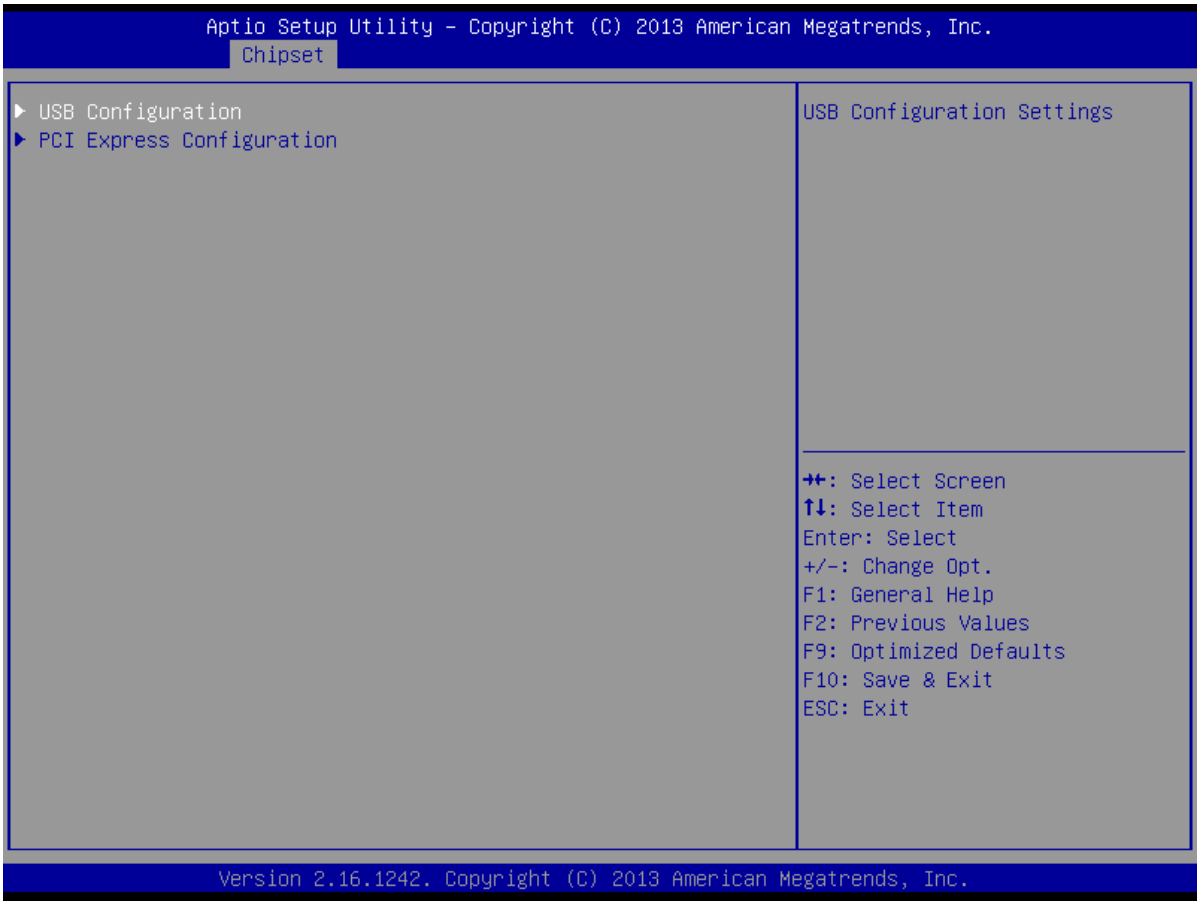
4.3.2 Chipset



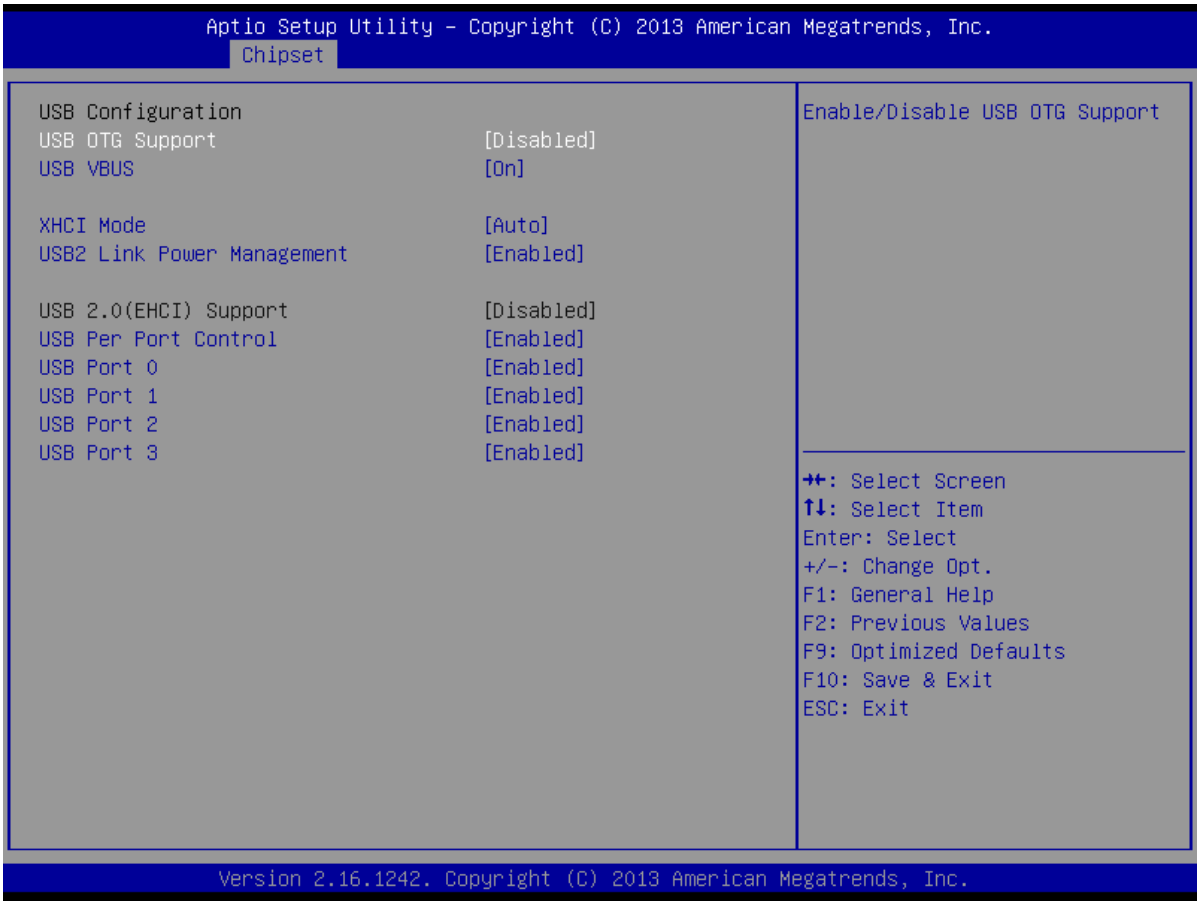
North Bridge



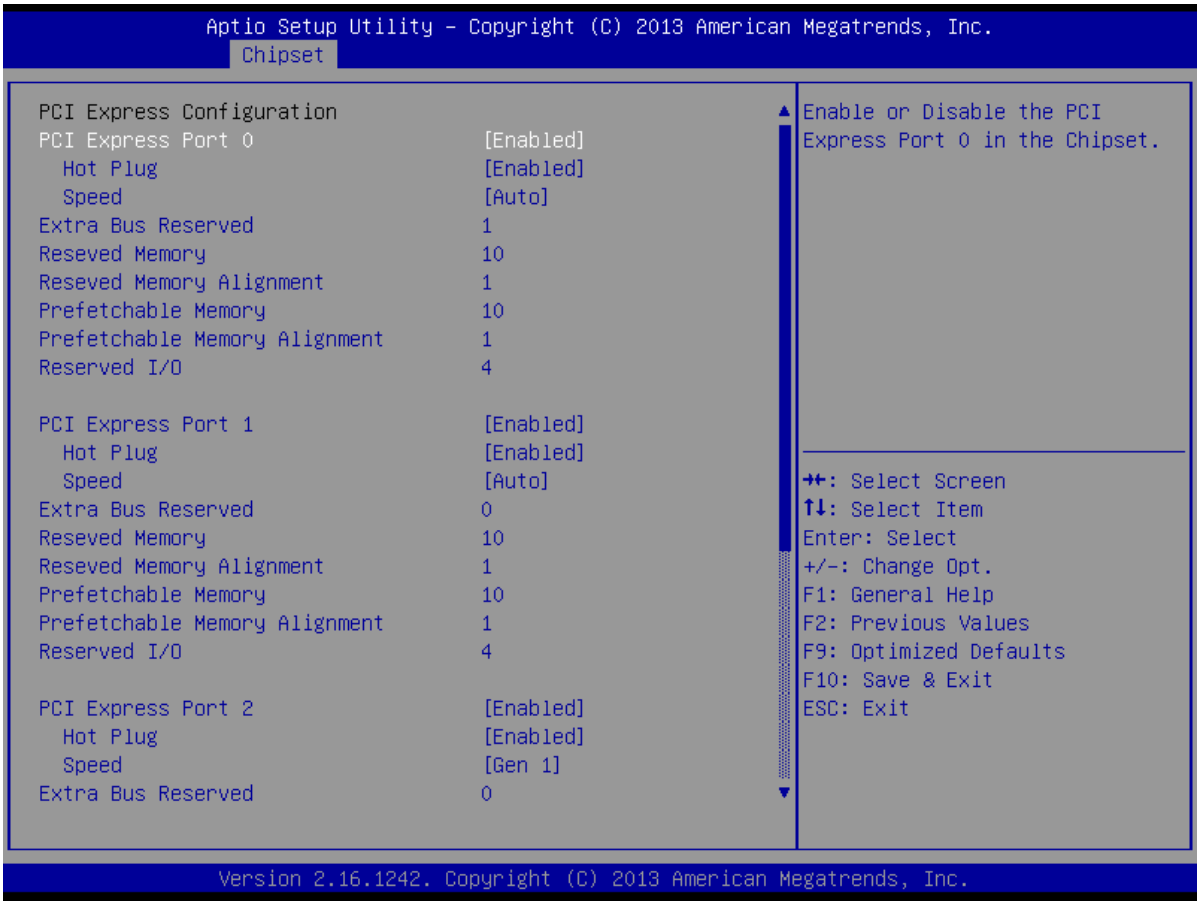
South Bridge



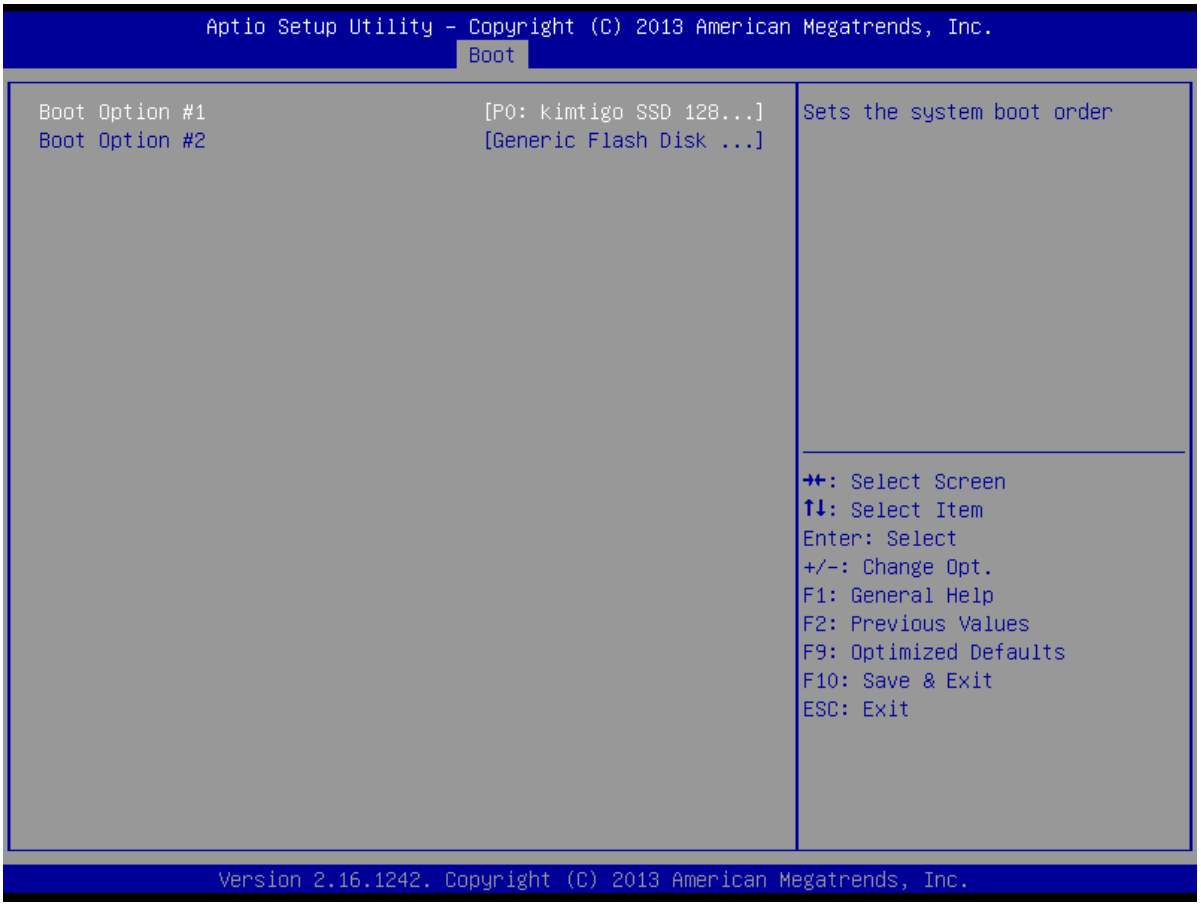
USB Configuration



P CI Express Configuration



4.3.3 BOOT



Save Changes and Reset

This item is used to save the modifications and restart them (F10).

Discard Changes and Reset

This is used to discard the modifications and restart.