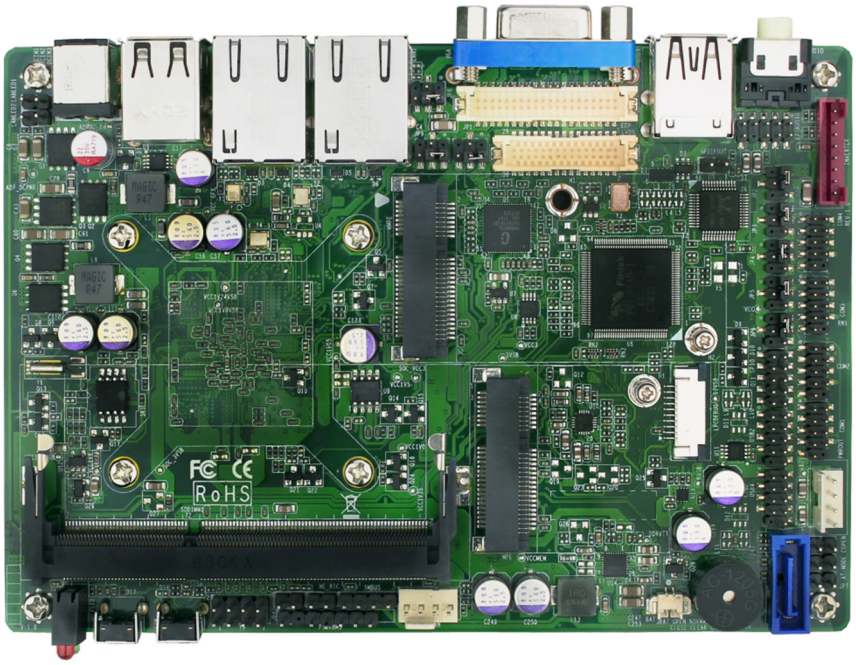
User Manual



BYT-35-N2930

A 3.5” embedded solution on

Intel® Quad-core processor

(Bay Trail Family)

Version 1.1

Copyright

Trademarks Acknowledgement

Revision History

Revision	Date	Remark
1.0	June 3, 2019	First version release
1.1	June 25, 2019	Block diagram modified

Contents

1 General Information 1
1.1 Overview 1
1.2 Block diagram 1
1.3 Specifications 2
1.4 Ordering Information 3
1.4.1 BYT-35-N2930 3
2 Hardware Information 4
2.1 Dimension 4
2.2 Board Outline 5
2.3 Connector, Header, and Jumper Summary 6
2.4 Pin Assignments & Jumper Settings 7
JP1: Voltage Select for LVDS 7
JP2: Voltage Select for LVDS Inverter 7
JP3: Function Select for Pin 9 on COM4 7
JP4: Function Select for Pin 9 on COM3 7
JP5: Function Select for Pin 9 on COM2 15
JP6: Function Select for Pin 9 on COM1 15
JP7: Security Measurement Selector 15
JP8: Voltage Select for eDP LCD 15
JP9: Voltage Select for eDP Backlight 15
JBAT: BIOS Clearing 15
COPEN: Case Open Message Display 16
AT Mode: AT Mode Select 16
Audio Header 16
COM Port Header 16

CPU Fan Header 17

eDP Wafer 17

PWR_RST: Power Button, Reset Button, Power LED, and Hard Disk LED Header 18

GPIO Port Header 18

LAN LED 18

LVDS Header 18

PS/2 Header 19

SPDIF Out Header 19

SMBus Header 19

USB2.0 Header 19

LVDS Inverter 19

SATA Connector 20

SATA Power Connector 20

3 BIOS 21

3.1 Entering BIOS Setup 21

3.2 Main 22

3.3 Advanced 23

3.4 Chipset 31

3.5 Security 33

3.6 Boot 34

3.7 Save & Exit 35

Technical Support Directly from ICOP 36

User Manual Feedback 36

Warranty 37

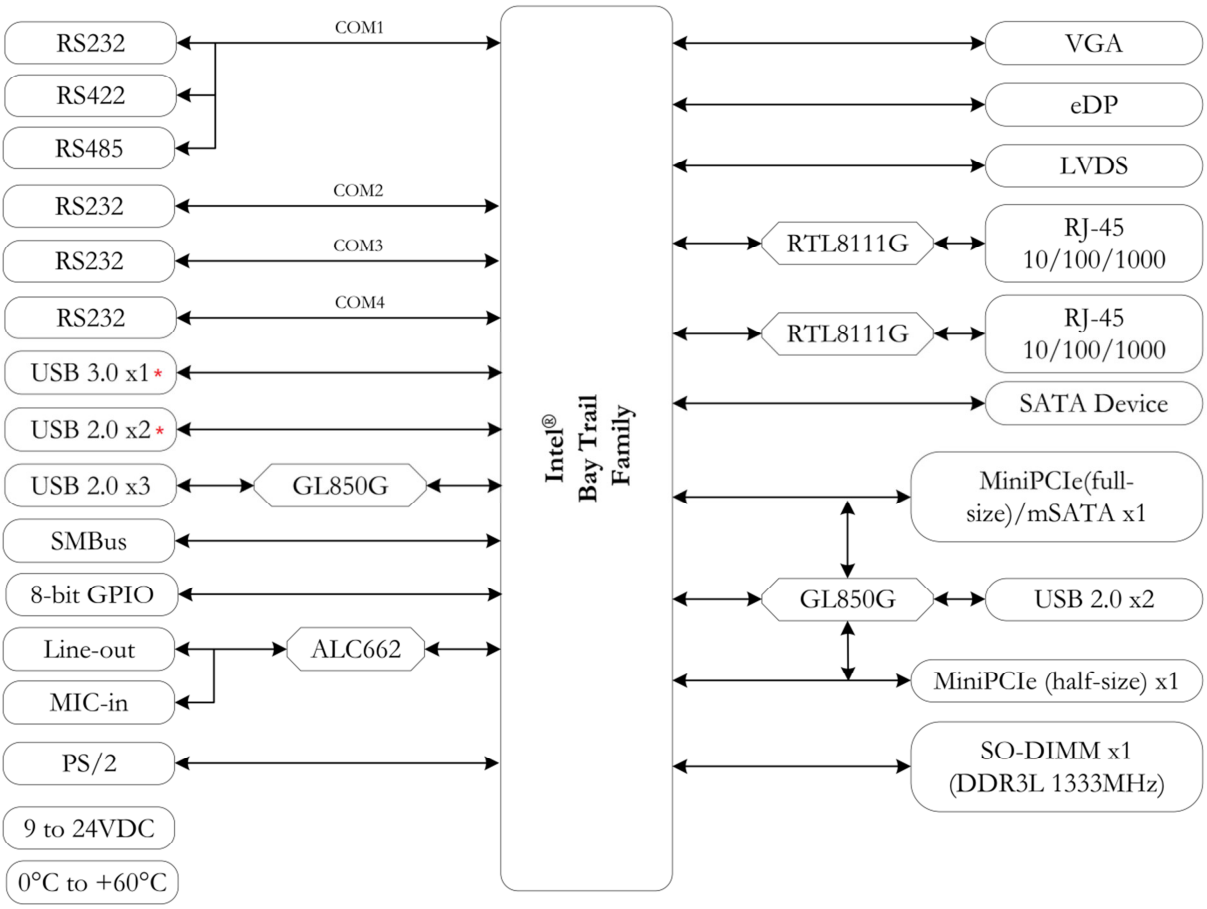
1 General Information

1.1 Overview

BYT-35-N2930, a standard 3.5" embedded solution for industrial application based on Intel® Bay Tail Quad-Core CPU with DDR3L RAM support up to 8GB, provides stable and powerful computing performance.

BYT-35-N2930 supports 2x Gigabit LAN, 4x COM, 8x USB, SMBus, 8-bit GPIO, 2x MiniPCIe, eDP, LVDS, VGA, and 2 storage options SATA interface and mSATA interface for development use.

1.2 Block diagram



* Native USB port. See page 5 for detail.

1.3 Specifications

Processor	Intel® Bay Trail N2930 2.16GHz (Burst) 1.83GHz Quad Core		
System Memory	DDR3L 1333MHz memory support up to 8GB in SO-DIMM slot x1		
BIOS	AMI BIOS		
Display	Intel® HD Graphics with MultiDisplay support VGA: resolution support up to 1920 x 1200 eDP: resolution support up to 1920 x 1080 LVDS: resolution support up to 1920 x 1080, dual channel 24-bit mode		
Audio	Realtek ALC662 HD Audio		
LAN	Realtek 8111G Gigabit Ethernet Controller		
Expansion	MiniPCIe (full-size, share with mSATA) x1		MiniPCIe (half size) x1
Disk Support	mSATA x1 (share with MiniPCIe)		SATA interface x1
I/O Interface	8-bit GPIO x1	COM x4 (RS232/422/485 x1)	eDP x1
	GigaLan x2	Line-out & MIC-in	LVDS x1
	PS/2 interface x1	SMBus x1	USB (ver. 2.0) x7
	USB (ver. 3.0) x1	VGA x1	
Connectors	2-pin header for SPDIF x1		15-pin D-ub connector for VGA x1
	4-pin header for SMBus x1		30-pin header for LVDS x1
	4-pin wafer for SATA power output x1		40-pin header for eDP x1
	6-pin header for PS/2 interface x1		Phone jack for Line-out x1
	7-pin SATA connector for SATA interface x1		Power jack for Power input x1
	9-pin header for COM x4		RJ45 connector x2
	9-pin header for Line-out, MIC-in x1		USB connector for USB2.0 x3
	9-pin heade for USB2.0 x2		USB connector for USB3.0 x1
	10-pin header for 8-bit GPIO x1		
Power Requirement	9 to 24VDC standard input from DC-in jack support for ATX/AT mode		
Operating Temp.	0°C to 60°C		
Dimensions	148 x 102 mm		
O/S Support	Windows 10	Windows 7	Linux

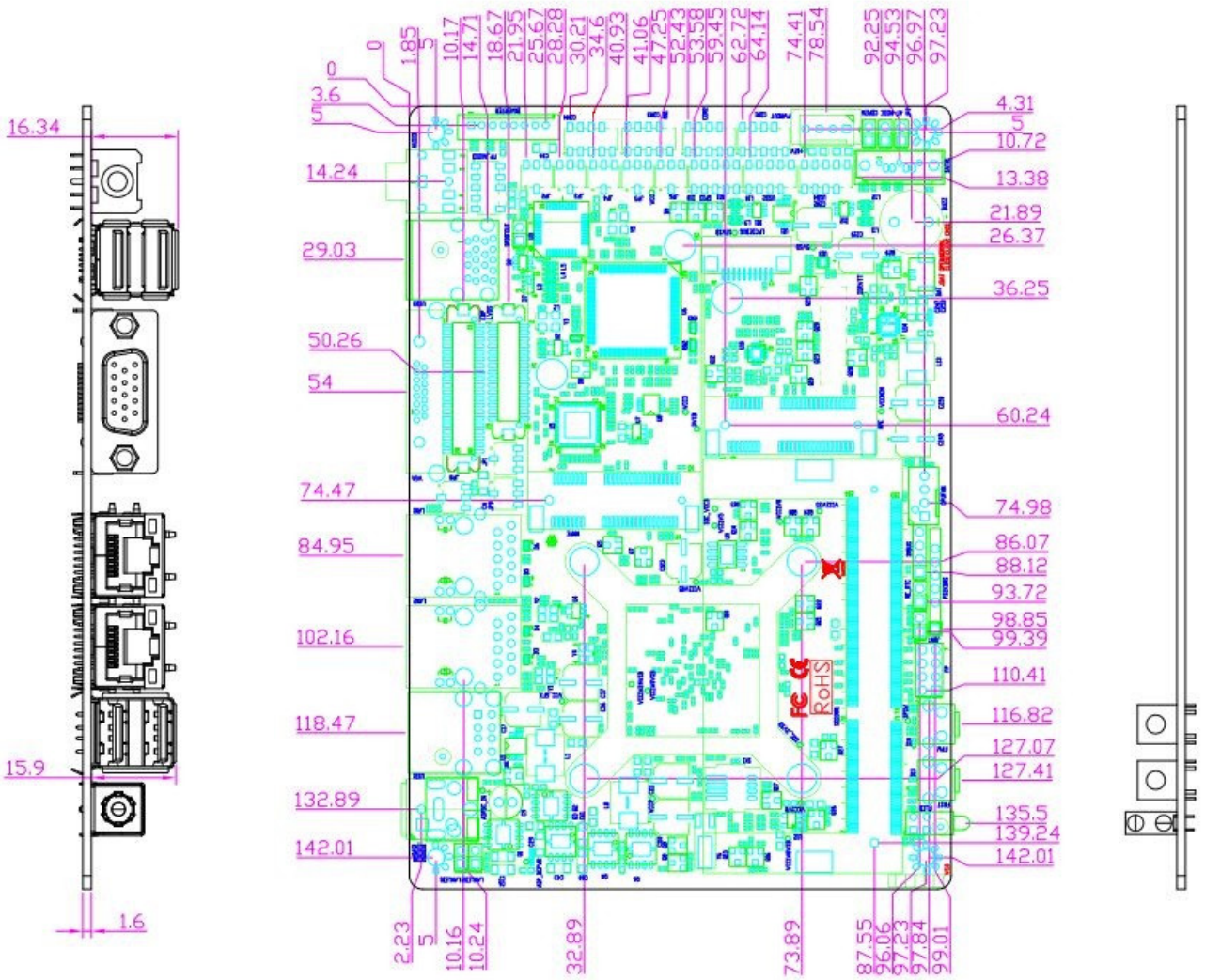
1.4 Ordering Information

1.4.1 BYT-35-N2930

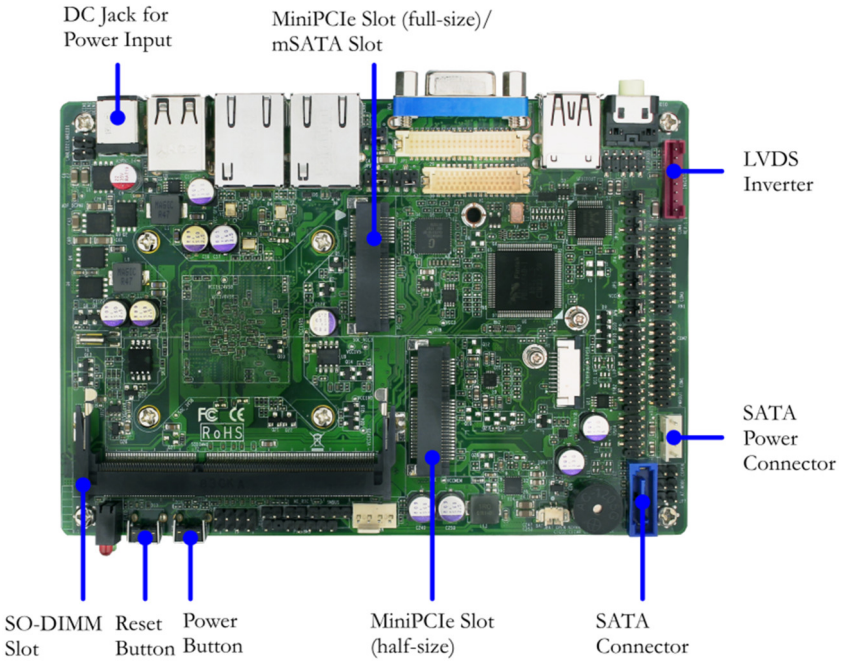
Product Name	BYT-35-N2930
Processor	Intel® Bay Trail N2930 2.16GHz (Burst) 1.83GHz Quad Core
System Memory	DDR3L 1333MHz memory support up to 8GB in SO-DIMM socket x1
Expansion	MiniPCIe (full size, share with mSATA) x1, MiniPCIe (half size) x1
Disk Support	mSATA (shared with MniPCIe), SATA device
Display	VGA, LVDS, eDP
Audio	Line-out, MIC-in
GigaLAN	2
COM	4 (RS232/422/485x 1)
USB3.0	1
USB2.0	7
SMBus	1
8-bit GPIO	1
PS/2 interface	1

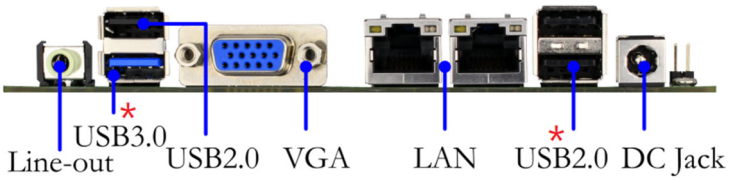
2 Hardware Information

2.1 Dimension

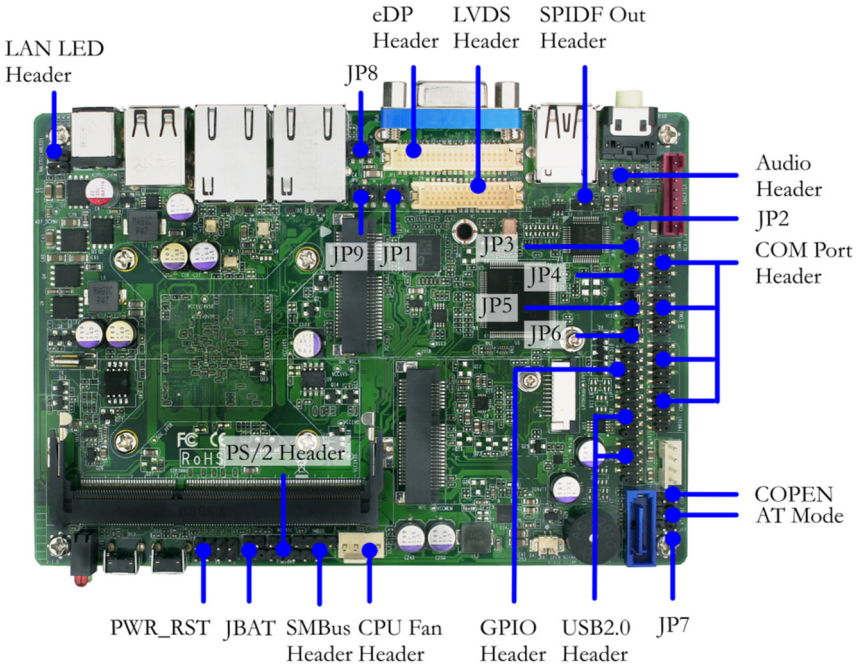


2.2 Board Outline





* Native USB port

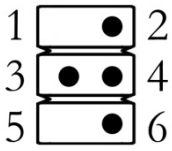


2.3 Connector, Header, and Jumper Summary

Nbr.	Name	Description	Nbr of Pin
JP1	Voltage Select for LVDS LCD	LVDS LCD voltage setting	4
JP2	Voltage Select for LVDS Inverter	LVDS inverter voltage setting	4
JP3	Function Select for Pin 9 on COM4	Function setting for Pin9 of COM4	4
JP4	Function Select for Pin 9 on COM3	Function setting for Pin9 of COM3	4
JP5	Function Select for Pin 9 on COM2	Function setting for Pin9 of COM2	4
JP6	Function Select for Pin 9 on COM1	Function setting for Pin9 of COM1	4
JP7	Security Measure Selector	Security Measure Select Function	2
JP8	Voltage Select for eDP LCD	eDP LCD voltage setting	4
JP9	Voltage Select for eDP Backlight	eDP backlight voltage setting	4
JBAT	BIOS Clearing	Pin header for BIOS Clearing	2
COPEN	Case Open Message Display	Case Open Message Display Function	2
AT Mode	AT Mode Function Select	AT Mode Function Select Function	2
---	Audio Header	Pin header for Line-out & MIC-in	9
---	COM Port Header	Pin header for COM1 to 4	9
---	CPU Fan Header	Pin header for CPU Fan	4
---	eDP Wafer	Wafer for eDP Display	40
PWR_RST	Power Button, Reset Button, Power LED, and Hard Disk LED Header	Pin header for Power button, Reset switch, Power LED, and HDD LED	8
---	GPIO Header	Pin Header for GPIO	10
---	LAN LED Header	Pin Header for LAN Activity LED	2
---	LVDS Header	Pin Header for LVDS Display	30
---	LVDS Inverter	Pin Header for LVDS Inverter	8
---	PS/2 Header	Pin Header for PS/2 Device	6
---	SPDIF Out Header	Pin Header for SPDIF Device	2
---	SMBus Header	Pin Header for SMBus Device	4
---	USB2.0 Header	Pin Header for USB2.0 Device	9
---	SATA Connector	7-pin connector for SATA Device	7
---	SATA Power Connector	4-pin power connector for SATA Device	4

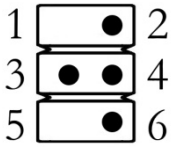
2.4 Pin Assignments & Jumper Settings

JP1: Voltage Select for LVDS



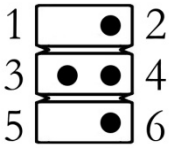
Pin	Status	Assignment
2 – 4	Closed	3.3V
3 – 4	Closed	5V
4 – 6	Closed	12V

JP2: Voltage Select for LVDS Inverter



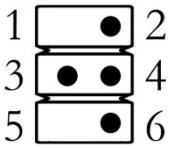
Pin	Status	Assignment
2 – 4	Closed	5V
3 – 4	Closed	12V
4 – 6	Closed	Adapter Vcc

JP3: Function Select for Pin 9 on COM4



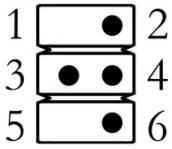
Pin	Status	Assignment
2 – 4	Closed	RS232
3 – 4	Closed	5V
4 – 6	Closed	12V

JP4: Function Select for Pin 9 on COM3



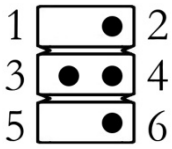
Pin	Status	Assignment
2 – 4	Closed	RS232
3 – 4	Closed	5V
4 – 6	Closed	12V

JP5: Function Select for Pin 9 on COM2



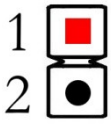
Pin	Status	Assignment
2 – 4	Closed	RS232
3 – 4	Closed	5V
4 – 6	Closed	12V

JP6: Function Select for Pin 9 on COM1



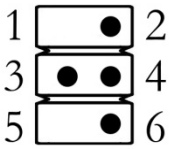
Pin	Status	Assignment
2 – 4	Closed	RS232
3 – 4	Closed	5V
4 – 6	Closed	12V

JP7: Security Measurement Selector



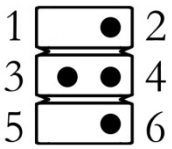
Pin	Status	Assignment
1 – 2	Open	Enabled
1 – 2	Closed	Disabled

JP8: Voltage Select for eDP LCD



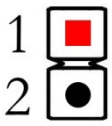
Pin	Status	Assignment
2 – 4	Closed	3.3V
3 – 4	Closed	5V
4 – 6	Closed	12V

JP9: Voltage Select for eDP Backlight



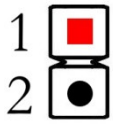
Pin	Status	Assignment
2 – 4	Closed	5V
3 – 4	Closed	12V
4 – 6	Closed	Adapter Vcc

JBAT: BIOS Clearing



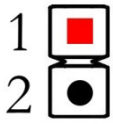
Pin	Status	Assignment
1 – 2	Open	---
1 – 2	Closed	Clear BIOS

COPEN: Case Open Message Display



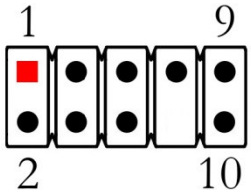
Pin	Status	Assignment
1 – 2	Open	---
1 – 2	Closed	Case Open Message Display

AT Mode: AT Mode Select



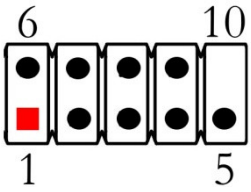
Pin	Status	Assignment
1 – 2	Open	ATX Mode
1 – 2	Closed	AT Mode

Audio Header



Pin	Assignment	Pin	Assignment
1.	MICR	2	GND
3	MICL	4	NC
5	LOUTR	6	NC
7	NC	8	---
9	LOUTL	10	NC

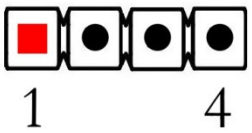
COM Port Header



Pin	Assignment		
	RS232	RS422	RS485
1.	DCD	TX-	DATA-
2	RXD	TX+	DATA+
3	TXD	RX+	NC
4	DTR	RX-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC

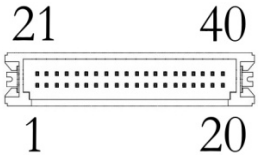
RS422/485 is supported by COM1 only.

CPU Fan Header



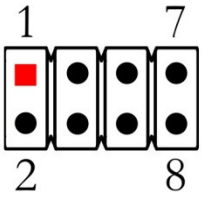
Pin	Assignment
1	GND
2	VCC
3	FAN CLOCK
4	CONTROL

eDP Wafer



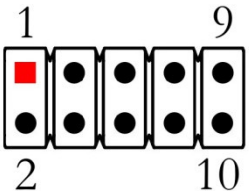
Pin	Assignment	Pin	Assignment
1	NC	21	NC
2	GNDD	22	NC
3	LANE3_N	23	GND
4	LANE3_P	24	GND
5	GND	25	GND
6	LANE2_N	26	GND
7	LANE2_P	27	GND
8	GND	28	GND
9	LANE1_N	29	GND
10	LANE1_P	30	GND
11	GND	31	GND
12	LANE0_N	32	BL_ENABLE
13	LANE0_P	33	BL_PWM_DM
14	GND	34	NC
15	AUX_CH_P	35	NC
16	AUX_CH_N	36	BL_PWR
17	GND	37	BL_PWR
18	VCC	38	BL_PWR
19	VCC	39	BL_PWR
20	VCC	40	NC

PWR_RST: Power Button, Reset Button, Power LED, and Hard Disk LED Header



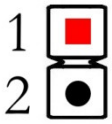
Pin	Assignment	Pin	Assignment
1.	HDDLED+	2	PWERLED+
3	HDDLED-	4	PWRLED-
5	PWRBTN	6	RSTSW
7	GND	8	GND

GPIO Port Header



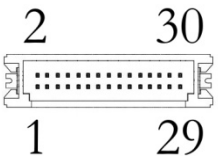
Pin	Assignment	Pin	Assignment
1.	GPIO80	2	GPIO81
3	GPIO82	4	GPIO83
5	GPIO84	6	GPIO85
7	GPIO86	8	GPIO87
9	GND	10	GND

LAN LED



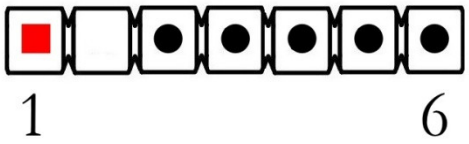
Pin	Assignment	Pin	Assignment
1.	LED+	2	LED-

LVDS Header



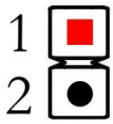
Pin	Assignment	Pin	Assignment
1.	LVDSB_DATAN3	2	LVDSB_DATAP3
3	LVDS_CLKBN	4	LVDS_CLKBP
5	LVDSB_DATAN2	6	LVDSB_DATAP2
7	LVDSB_DATAN1	8	LVDSB_DATAP1
9	LVDSB_DATAN0	10	LVDSB_DATAP0
11	NC/DDC_DATA	12	NC/DDC_CLK
13	GND	14	GND
15	GND	16	GND
17	LVDSA_DATAP3	18	LVDSA_DATAN3
19	LVDS_CLKAP	20	LVDS_CLKAN
21	LVDSA_DATAP2	22	LVDSA_DATAN2
23	LVDSA_DATAP1	24	LVDSA_DATAN1
25	LVDSA_DATAP0	26	LVDSA_DATAN30
27	PVCC	28	PVCC
29	PVCC	30	PVCC

PS/2 Header



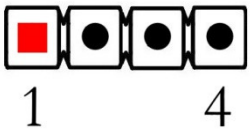
Pin	Assignment
1	VCC
2	KB_DATA
3	KB_CLK
4	GND
5	MS_CLK
6	MS_DATA

SPDIF Out Header



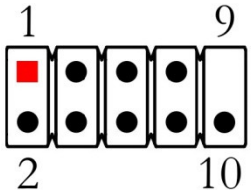
Pin	Assignment
1	SPDIGOUT
2	GND

SMBus Header



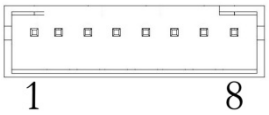
Pin	Assignment
1	VCC
2	SMBUS_CLK
3	GND
4	SMBUS_DATA

USB2.0 Header



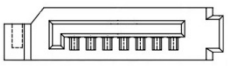
Pin	Assignment	Pin	Assignment
1.	VCC	2	VCC
3	DATA-	4	DATA-
5	DATA+	6	DATA+
7	GND	8	GND
9	---	10	NC

LVDS Inverter



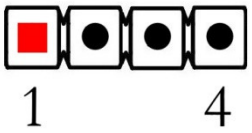
Pin	Assignment
1	BACKLIGHT ENABLE
2	BACKLIGHT PWM
3	PVCC
4	PVCC
5	GND
6	GND
7	BACKLIGHT UP SW
8	BACKLIGHT DOWN SW

SATA Connector



Pin	Assignment
1.	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

SATA Power Connector



Pin	Assignment
1	+5V
2	GND
3	GND
4	+12V

3 BIOS

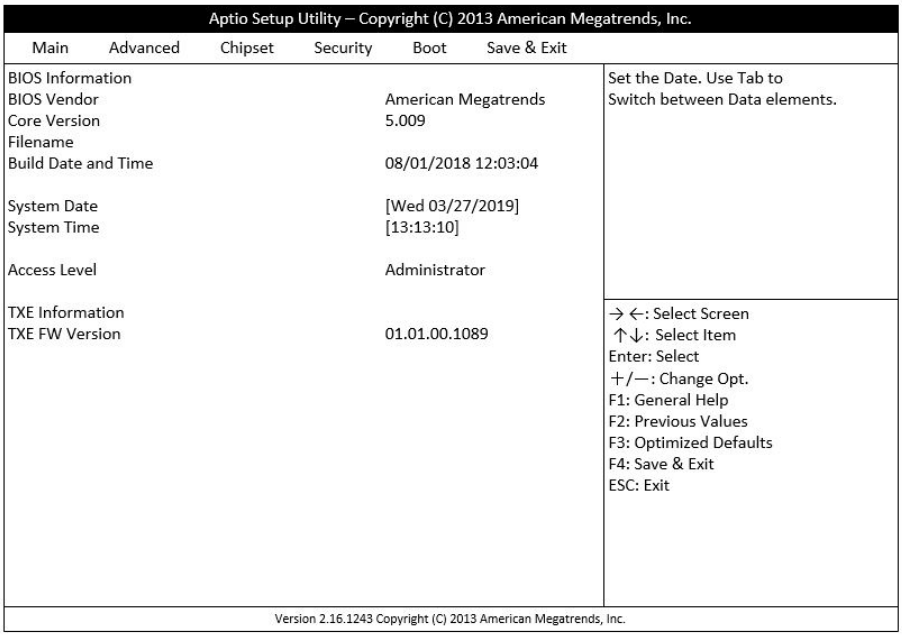
The AMI BIOS is preinstalled on BYT-35-N2930 to bridge board computer and operating system and is stored in CMOS RAM for retaining BIOS configuration. Through AMI BIOS, user can modify basic system configuration for application requirement.

In this chapter, a brief BIOS introduction will be given to user who would to change BIOS configuration for application demand.

3.1 Entering BIOS Setup

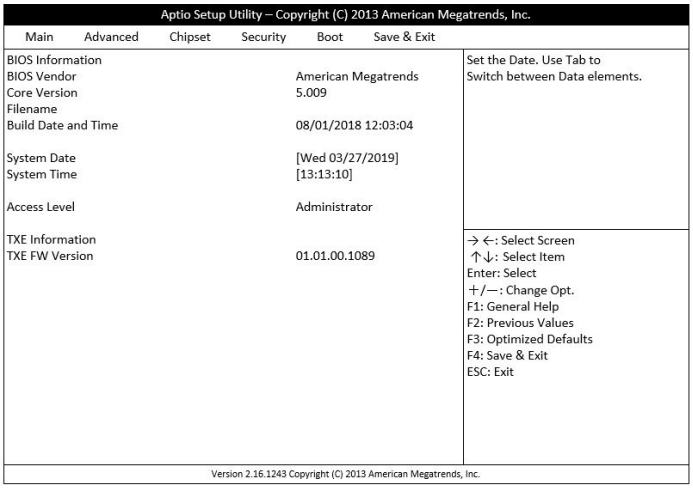
Press <Delete> key to enter BIOS Setup while the system is powering on. Once entering BIOS Setup, you will see an image as the following shown with six menu bars Main, Advance, Chipset, Boot, and Save & Exit at the top of BIOS menu.

Menu	To change basic system configuration
Advanced	To change advanced system configuration
Chipset	To change system chipset configuration
Security	Password setting
Boot	To change system boot setting
Save & Exit	To save configuration change or to reload default configuration setting



3.2 Main

To change basic system configuration with system date and time.
<Tab> key is used to switch between elements.

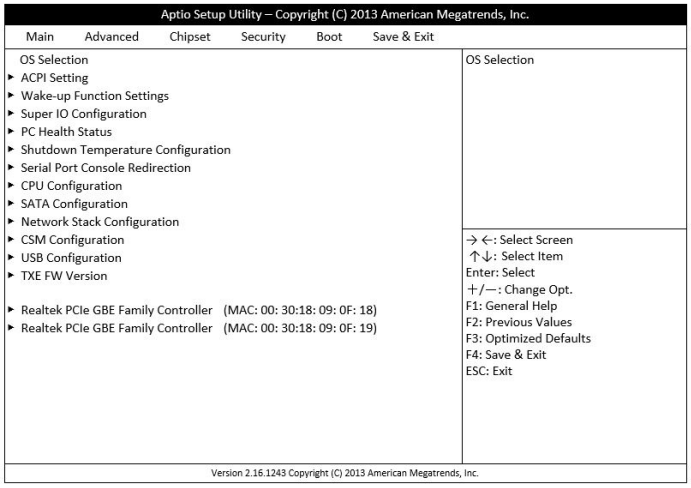


System Date Set the Date. Use Tab to switch between Date elements.

System Time Set the Time. Use Tab to switch between Time elements.

3.3 Advanced

To change advanced system I/O configuration



OS Selection OS Selection

[Linux],[Android], [Windows 8.X], [Windows 7]

ACPI Setting System ACPI Parameters

ACPI Sleep State Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed

[Suspend Disabled], [S3 (Suspend to RAM)]

Wake-up Function Settings System Wake-up function setting

Wake-up System with Fixed time Enable of disable System wake on alarm event. When enabled, System will wake on the hr:min:sec specified

[Disabled], [Enabled]

Wake System with Dynamic Time Enable or disable System wake on alarm event. When enabled, System will wake on the current time + Increase minute(s)

[Disabled], [Enabled]

PS2 KB/MS Wake-up Enable or Disable PS2 KB/MS Wake-up from (S3/S4/S5) Support Only Disable ERP Function

[Disabled], [Enabled]

USB S3/S4 Wake-up Enable or Disable USB S3/S4 Wake-up Support Only Disable ERP Function

[Disabled], [Enabled]

USB S5 Power USB Power after system Shutdown. Support Only Disable ERP Function

[Disabled], [Enabled]

Super IO Configuration System IO Chip Parameters

ERP Support Energy-Related Products function Disable
[Disabled], [Auto] ERP to active all wake-up functions.

Serial Port 1 Configuration

Serial Port Enable or Disable Serial Port (COM)
[Disabled], [Enabled]

Change Settings Select an optimal settings for Support IO
[Auto], [IO=3F8h; IRQ=4], Device
[IO=2F8h; IRQ=3],
[IO=3E8h; IRQ=4],
[IO=2E8h; IRQ=3]

Transmission Mode Select
[RS422], [RS232], [RS485]

Mode Speed Select RS232/RS422/RS485 Speed Select
[RS232/RS422/RS485=250Kbps]
[RS232=1Mbps. RS422/RS485=10Mbps]

Serial Port FIFO Mode
[16-Byte FIFO], [32-Byte FIFO],
[64-Byte FIFO], [128-Byte FIFO]

Serial Port 2 Configuration

Serial Port Enable or Disable Serial Port (COM)
[Disabled], [Enabled]

Change Settings Select an optimal settings for Support IO
[Auto], [IO=3F8h; IRQ=4], Device
[IO=2F8h; IRQ=3],
[IO=3E8h; IRQ=4],
[IO=2E8h; IRQ=3]

Serial Port FIFO Mode
[16-Byte FIFO], [32-Byte FIFO],
[64-Byte FIFO], [128-Byte FIFO]

Serial Port 3 Configuration

Serial Port Enable or Disable Serial Port (COM)
[Disabled], [Enabled]

Change Settings Select an optimal settings for Support IO
[Auto], [IO=3F8h; IRQ=4], Device
[IO=2F8h; IRQ=3],
[IO=3E8h; IRQ=4],
[IO=2E8h; IRQ=3]

Serial Port FIFO Mode
[16-Byte FIFO], [32-Byte FIFO],
[64-Byte FIFO], [128-Byte FIFO]

Serial Port 4 Configuration

Serial Port — Enable or Disable Serial Port (COM)
[Disabled], [Enabled]

Change Settings — Select an optimal settings for Support IO Device
[Auto], [IO=3F8h; IRQ=4],
[IO=2F8h; IRQ=3],
[IO=3E8h; IRQ=4],
[IO=2E8h; IRQ=3]

Serial Port FIFO Mode
[16-Byte FIFO], [32-Byte FIFO],
[64-Byte FIFO], [128-Byte FIFO]

OS Select For Serial Port — Serial port support for Windows or Linux
[Windows],[Linux]

WatchDog Timer
[Disabled], [Enabled]

Case Open Detect — Detect Case has already open or not. Show message in POST
[Disabled], [Enabled]

PC Health Status — Monitor hardware status

SmartFAN Configuration

CPUFAN Type
[4-pin], [3-pin]

CPUFAN Smart Mode
[Disabled], [Enabled]

CPUFAN Full-Speed Temperature

CPUFAN Full-Speed Duty

CPUFAN Idle-Speed Temperature

CPUFAN Idle-Speed Duty

Shutdown Temperature Configuration — Shutdown Temperature

Shutdown Temperature — Shutdown Temperature
[Disabled], [Enabled]

Serial Port Console Redirection — Serial Port Console Redirection

Console Redirection — Console Redirection Enable or Disable
[Disabled], [Enabled]

Console Redirection Settings — The settings specify how the host computer and the remote computer and the remote

	computer (which the user is using) will exchange date. Both computers should have the same or compatible settings.
Terminal Type *[VT100], [VT100+], [VT-UTF8], [ANSI]*	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Bits per second *[9600], [19200], [38400], [57600], [115200]*	Select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits *[7], [8]*	Data Bits
Parity *[None], [Even], [Odd], [Mark], [Space]*	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the date bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: parity bit is always 0. Mark and Space Parity do not allow for error detection.
Stop Bits *[1], [2]*	Stop bits indicate the end of a serial date packet (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.
Flow Control *[None], [Hardware RTS/CTS]*	Flow control can prevent data loss from buffer overflow. When sending date, if the r receiving buffers are full, a 'stop' signal can be sent to stop the date flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
VT-UTF8 Combo Key Support *[Disabled], [Enabled]*	Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.
Recorder Mode *[Disabled], [Enabled]*	With this mode enabled only test will be sent. This is to capture Terminal data.
Resolution 100x31	Enables or disables extended terminal

[Disabled], [Enabled]	resolution
Legacy OS Redirection Resolution *[80x24], [80x25]*	On Legacy OS, the Number of Rows and Columns supported redirection.
Putty KeyPad *[VT100], [LINUX], [XTERM86], [SCO], [ESCN], [VT400]*	Select Function Key and Key pad on Putty.
Redirection After BIOS POST *[Always Enable], [Bootloader]*	The Settings specify if Bootloader is selected then Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable with means Legacy console Redirection is enabled for Legacy OS.
Legacy Console Redirection Settings	Legacy Console Redirection Settings
Legacy Serial Redirection Port *[COM1]*	Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages
Console Redirection *[Disabled], [Enabled]*	Console Redirection Enable or Disable
Console Redirection Settings	The settings specify how the how the host Computer and the remote computer (which the user is using) will exchange date. Both computers should have the same or compatible settings.
Terminal Type *[VT100], [VT100+], [VT-UTF8], [ANSI]*	VT-UTF8 is the preferred terminal type for out-of-band management, The next best choice is VT100+ and then VT100, See above, in Console Redirection Settings page, for more Help with Terminal Type/Emulation.
Bits per second *[9600], [19200], [38400], [57600], [115200]*	Select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Flow Control *[None], [Hardware RTS/CTS], [Software Xon/Xoff]*	Flow control can prevent data loss from buffer overflow. When sending date, if the r receiving buffers are full, a 'stop' signal can be sent to stop the date flow. Once the buffers are empty, a 'start' signal can be sent

	to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
CPU Configuration	CPU Configuration Parameters
Limit CPUID Maximum	Disabled for Windows XP
[Disabled], [Enabled]	
Execute Disable Bit	XD can prevent certain classes of malicious
[Disabled], [Enabled]	buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)
Hardware Prefertcher	Enable the Mid Level Cache (L2)
[Disabled], [Enabled]	streamer prefetcher
Adjacent Cache Line Prefetch	Enable the Mid Level Cache (L2)
[Disabled], [Enabled]	prefetching of adjacent cache lines.
Intel Virtualization Technology	When enabled, a VMM cam utilize the
[Disabled], [Enabled]	additional hardware capabilities provided by Vanderpool Technology.
EIST	Enable/Disable Intel SpeedStep
[Disabled], [Enabled]	
SATA Configuration	SATA Devices Configuration
SATA Port	Enable/Disable Serial ATA
[Disabled], [Enabled]	
SATA Mode	Select IDE/AHCI
[IDE Mode], [AHCI Mode]	
SATA Speed Support	SATA Speed Support Gen1 or Gen2
[Gen1], [Gen2]	
SATA Port	Enable/Disable Serial ATA Port
[Disabled], [Enabled]	
mSATA	Enable/Disable Serial ATA Port
[Disabled], [Enabled]	
Network Stack Configuration	Network Stack Settings
Network Stack	Enable/Disable UEFI Network Stack
[Disabled], [Enabled]	
Ipv4 PXE Support	Enable Ipv4 PXE Boot Support. If
[Disabled], [Enabled]	disabled IPV4 PXE boot option will not be created.
Ipv6 PXE Support	Enable Ipv6 PXE Boot Support. If
[Disabled], [Enabled]	disabled IPV6 PXE boot option will not

	be created.
PXE boot wait time *[Disabled], [Enabled]*	Wait time to press ESC key to abort the PXE boot.
CSM Configuration	CSM configuration: Enable/Disable, Option ROM execution settings, etc.
Network *[Do not launch], [UEFI only], [Legacy only]*	Controls the execution of UEFI and Legacy PXE OpROM
USB Configuration	USB Configuration Parameters
Legacy USB Support *[Disabled], [Enabled], [Auto]*	Enables Legacy USB support. AUTO option Disables legacy support if no USB devices are connected. DISABLED option ill keep USB devices available only for EFI applications.
XHCI Hand-off *[Disabled], [Enabled]*	This is a wrokaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
EHCI Hand-off *[Disabled], [Enabled]*	This is a wrokaround for OSes without EHCI hand-off support. The XHCI ownership change should be claimed by EHCI driver.
USB Mass Storage Driver Support *[Disabled], [Enabled]*	Enable/Disable USB Mass Storage Driver Support
USB transfer time-out *[1 sec], [5 sec], [10 sec], [20 sec]*	The time-out value for Control Bulk, and Interrupt transfers.
Device transfer time-out *[10 sec], [20 sec], [30 sec], [40 sec]*	USB mass storage device Start Unit command timr-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.

Realtek PCIe GBE Family Controller (MAC:00:30:18:09:0F:18)

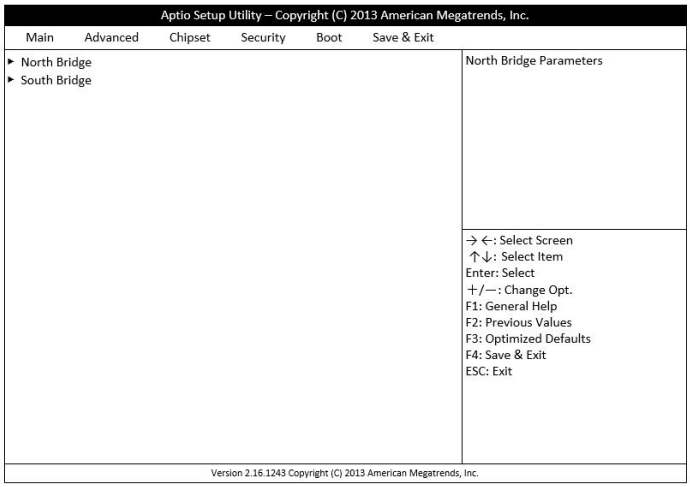
Get driver information and configure Realtek Ethernet controller parameter

Realtek PCIe GBE Family Controller (MAC:00:30:18:09:0F:18)

Get driver information and configure Realtek Ethernet controller parameter

3.4 Chipset

To change system I/O configuration based on North Bridge and South Bridge chipset



North Bridge — North Bridge Parameters

PAVC — Enable/Disable Protected Audio Video Control
[Disabled], [LITE Mode], [SERPENT Mode]

DVMT Pre-Allocated — Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the International Graphics Device.
[64MB], [96MB], [128MB], [160MB], [192MB], [224MB], [256MB], [288MB], [320MB], [352MB], [384MB], [416MB], [448MB], [480MB], [512MB]

DVMT Total Gfx Mem — Select DVMT 5.0 Total Graphics Memory size used by the Internal Graphics Device.
[128MB], [256MB], [Max]

Aperture Size — Select the Aperture size
[128MB], [256MB], [512MB]

GTT Size — Select the GTT size
[1MB], [2MB]

IGD Turbo Enable — Enable: Enable IGD Turbo Enable
[Disabled], [Enabled] Disable: Enable IGD Turbo Disable

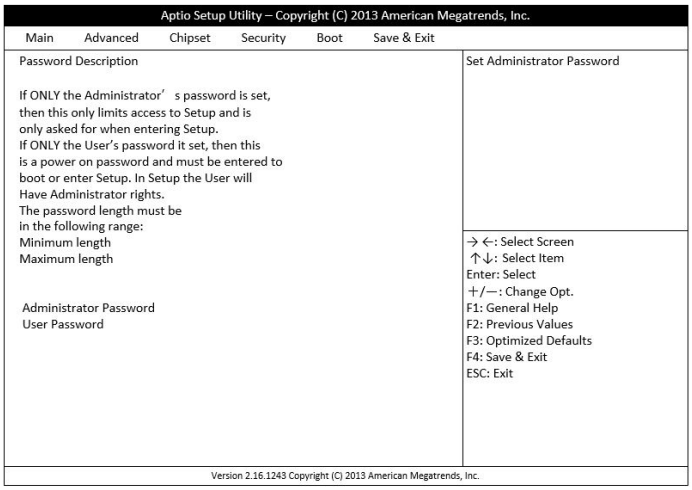
Spread Spectrum clock — Enable/Disable Spread Spectrum clock
[Disabled], [Enabled]

IGD Boot Type — Select preference display interface used when system boots.
[CRT], [eDP+CRT], [LVDS+CRT]

South Bridge	South Bridge Parameters
USB Configuration	USB Configuration Settings
USB 3.0 Support	Control the USB 3.0 functions
[Enabled], [Disabled], *[Auto], [Smart Auto]*	
USB 3.0 Link Power Management	Enable/Disable USB 3.0 Link Power Management
[Enabled], [Disabled]	
Auto Configuration	Control Detection of the Azalia device.
[Enabled], [Disabled],	Disable = Azalia will be unconditionally disabled. Enabled = Azalia will be unconditionally enabled. Auto = Azalia will enabled if present disabled otherwise.
MMPE Slot Speed	Configure PCIe Port Speed.
[Auto], [Gen1], [Gen2]	
MPE Controller	Enable or Disable Device or Controller
[Enabled], [Disabled]	
Speed	Configure PCIe Port Speed
[Auto], [Gen1], [Gen2]	
Onboard Lan1 Controller	Enable or Disable Device or Controller
[Enabled], [Disabled]	
Onboard Lan2 Controller	Enable or Disable Device or Controller
[Enabled], [Disabled]	
System State after Power Failure	Select AC power state when power is re-applied after a power failure
[Always Off], [Always On], *[Former State]*	

3.5 Security

Password setting for system security

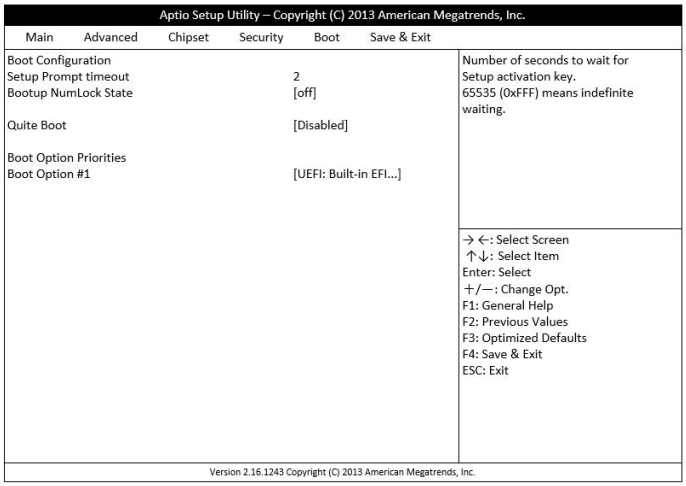


Administrator Password Set Administrator Password

User Password Set User Password

3.6 Boot

To change system boot setting



Setup Prompt Timeout Number of seconds to wait for setup activation key.. 65535 (0xFFFF) means indefinite waiting.

Bootup NumLock State Select the keyboard NumLock state

[On], [Off]

Quiet Boot Enables or disables Quiet Boot option

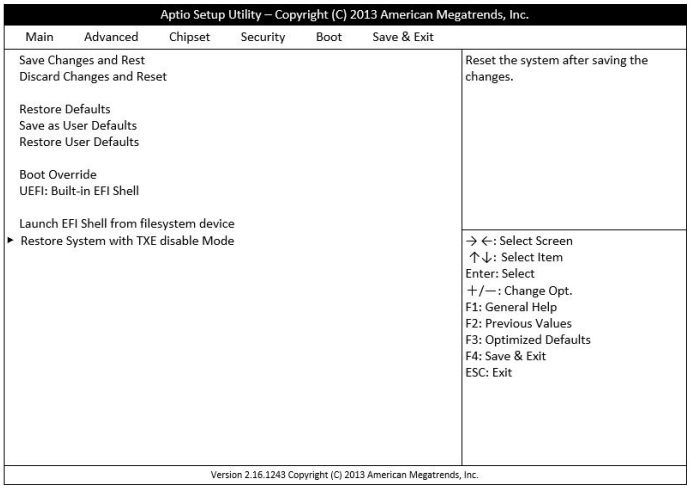
[Disabled], [Enabled]

Boot Option #1 Sets the system boot order

[UEFI: Built-in EFI Shell], [Disabled]

3.7 Save & Exit

To save configuration change or to reload default configuration setting



Save Changes and Reset Reset the system after saving the changes.

Discard Changes and Reset Reset the system setup without saving any changes.

Restore Defaults Reset/Load Default values for all the setup options

Save as User Defaults Save the changes done so far as User Defaults

Restore as User Defaults Restore the User Defaults to all the setup options

UEFI: Built-in EFT Shell

Launch EFT Shell from filesystem device Attempts to Launch EFI Shell application (Shell.efi) from one of the available filesystem devices

Reset System with TXE disable Mode TXE will runs into the temporary disable mode, Ignore if TXE Ignition FW

Technical Support Directly from ICOP

To offer you more accurate and specific solutions for the technical situations you have, please prepare the information below before contacting ICOP:

—Product name and serial number

—Description of the H/W environment (i.e.: working temperature, I/O board information, information of connection between main board and IO boards, and/or other devices, etc)

—Description of the S/W environment (i.e: operating system, version, application software, and/or other related information, etc.)

—A detailed description and photos of the technical situation

—Any complement or technical situations you want ICOP more focusing on

User Manual Feedback

To make this user manual more complete, if you have any comments or feedbacks to this manual, please feel free to write to info@icop.com.tw or contact your ICOP sales representative.

Warranty

This product is warranted to be in good working order for a period of one year (12 months) from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it without additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise is accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description. Should you have questions about warranty and RMA service, please contact us directly.

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