ASRock Industrial

STX-1000B
STX-1000J
STX-1000D
STX-1000BR
STX-1000JR
STX-1000DR
STX-1000DR-NF

User Manual

Version 1.0
Published November 2019

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CAUTION:

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

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Chapter 1: Introduction

Thank you for purchasing ASRockInd ***STX-1000B / STX-1000J / STX-1000D / STX-1000BR / STX-1000JR / STX-1000DR / STX-1000DR-NF*** motherboard, a reliable motherboard produced under ASRockInd's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRockInd's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRockInd website without further notice. You may find the latest VGA cards and CPU support lists on ASRockInd website as well. ASRockInd website http://www.asrockind.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
www.asrockind.com/support/index.asp

1.1 Package Contents

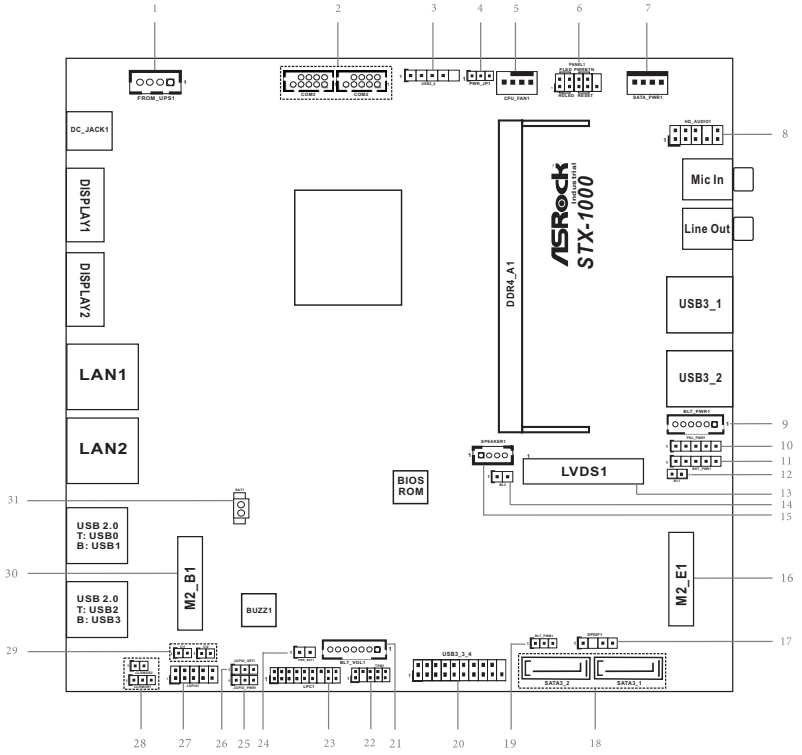
ASRockInd ***STX-1000B / STX-1000J / STX-1000D / STX-1000BR / STX-1000JR / STX-1000DR / STX-1000DR-NF*** Motherboard
(Mini-STX Form Factor: 5.5-in x 5.8-in)
ASRockInd ***STX-1000B / STX-1000J / STX-1000D / STX-1000BR / STX-1000JR / STX-1000DR / STX-1000DR-NF*** Driver CD
ASRockInd ***STX-1000B / STX-1000J / STX-1000D / STX-1000BR / STX-1000JR / STX-1000DR / STX-1000DR-NF*** Jumper Setting Instruction
1 x I/O Panel Shield

1.2 Specifications

Form Factor	Dimensions	Mini-STX (5.5-in x 5.8-in)
Processor System	CPU	Intel® Gemini Lake SoC Processor - STX-1000B (J4005, DC, 2.0 GHz, 10 W) - STX-1000J (J4105, QC, 1.5 GHz, 10 W) - STX-1000D (J5005, QC, 1.5 GHz, 10 W) Intel® Gemini Lake Refresh SoC Processor - STX-1000BR (J4025, DC, 2.0 GHz, 10 W) - STX-1000JR (J4125, QC, 2 GHz, 10 W) - STX-1000DR (J5040, QC, 2 GHz, 10 W) - STX-1000DR-NF (J5040, QC, 2 GHz, 10 W)
	Chipset	SoC
Expansion Slot	PCIe	N/A
	Mini-PCIe	N/A
	mSATA	N/A
	M.2	1 x M.2 (Key B, 2242/2260/2280) with PCIe x1, USB 2.0 and SATA3 1 x M.2 (Key E, 2230) with PCIe x1, CNVi and USB 2.0 for WiFi+BT
Memory	Technology	Single Channel DDR4 2400 MHz
	Max.	8GB
	Socket	1 x SO-DIMM
Graphics	Controller	Intel® UHD Graphics (By CPU)
	VGA	N/A
	DVI	N/A
	LVDS	Dual channel 24 bit, max. resolution up to 1920x1200@60Hz
	HDMI	N/A
	DisplayPort	DisplayPort++ 1.2 with max. resolution up to 4096x2160@60Hz
	Multi Display	Triple Display
	eDP	eDP 1.4 (share with LVDS) with max. resolution up to 4096x2160@60Hz
Ethernet	Ethernet	10/100/1000 Mbps
	Controller	1 x Intel® I210AT, 1 x Realtek RTL8111G
	Connector	2 x RJ-45
Front I/O	Front USB	2 x USB 3.1
	Front Audio	2 (Mic-in, Line-out)

Rear I/O	VGA	N/A
	DVI	N/A
	HDMI	N/A
	DisplayPort	2 x DP1.2
	Ethernet	2
	USB	4 x USB 2.0
	Serial	N/A
	PS/2	N/A
Internal Connector	USB	1 x USB 2.0, 2 x USB 3.1
	LVDS/ Inverter	1 (shared with eDP)
	eDP	1 (shared with LVDS)
	VGA	N/A
	Serial	1 x COM (RS-232),1 x COM (RS-232/422/485)
	SATA	2 x SATA3 (one is shared with M.2 Key B)
	Parallel	N/A
	GPIO	4 x GPI + 4 x GPO
	SATA PWR Output	1
	Speaker Header	1
	TPM	1 x Header (SPI)
Watchdog Timer	Output	Output from super I/O to drag RESETCON#
	Interval	256 Segments, 0,1,2…255 Sec
Power Requirements	Input PWR	+9~24V DC-in (DC Jack/4-pin ATX PWR Con)
	Power On	AT/ATX Supported -AT : Directly PWR on as Power input ready -ATX : Press Button to PWR On after Power input ready
Environment	Temperature	0ºC – 60ºC
	Storage Temp	-40ºC–85ºC
	Operating Humidity	5% ~ 90%
	Storage Humidity	5% ~ 90%

1.3 Motherboard Layout

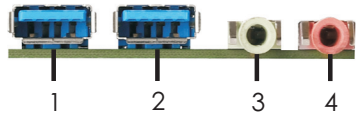


1 : 4-pin DC-in PWR Connector (Input +9V~+24V) & UPS Module Power Output Connector
2 : COM Port Headers (COM2, 3)
3 : USB2.0 Header (USB2_4)
4 : ATX/AT Mode Select (PWR_JP1)
5 : 4-Pin CPU FAN Connector (+12V)
6 : System Panel Header
7 : SATA Power Output Connector
8 : Front Panel Audio Header
9 : Backlight Power Connector (BLT_PWR1)
10 : Panel Power Select (LCD_VCC) (PNL_PWR1)
11 : Backlight Power Select (LCD_BLT_VCC) (BKT_PWR1)
12 : BL1
13 : LVDS Panel Connector
14 : BL2
15 : 3W Audio AMP Output Wafer
16 : M.2 Key-E Socket (M2_E1)
17 : SPDIF Header
18 : SATA3 Connectors (SATA3_1, SATA3_2)
(SATA3_2 is share with M2_B1)
19 : Backlight Control Level (CON_LBKLT_CTL) (BLT_PWM1)
20 : USB3.0 Header (USB3_3_4)
21 : Backlight Volume Control (BLT_VOL1)
22 : SPI TPM Header
23 : LPC Header
24 : PWR_BAT1
25 : Digital Input / Output Power Select (JGPIOPWR) (JGPIO_PWR1)
26 : Digital Input / Output Default Value Setting (JGPIO_SET1)
27 : Digital Input / Output Pin Header (JGPIO1)
28 : Clear CMOS Headers (CLRMOS1, CLRMOS2)
29 : Chassis Intrusion Headers (CI1, CI2)
30 : M.2 Key-B Socket (M2_B1)
31 : Battery Connector

Back Side:
SIM Card Socket (SIM1)
eDP Connector (EDP1)

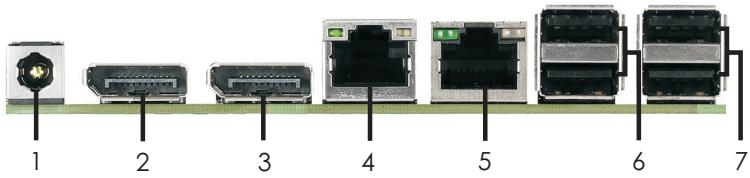
1.4 I/O Panel

Front I/O:



1 : USB3.0 Port (USB3_2)
2 : USB3.0 Port (USB3_1)
3 : Audio Jack (Green - Line Out)
4 : Audio Jack (Pink - Mic In)

Rear I/O:



1 : DC Jack (DC_JACK1)
2 : DisplayPort (DISPLAY1)
3 : DisplayPort (DISPLAY2)
4 : RJ45 LAN Port (LAN1)*
5 : RJ45 LAN Port (LAN2)*
6 : USB2.0 Ports (USB2_0_1)
7 : USB2.0 Ports (USB2_2_3)

* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

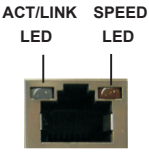
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



Chapter 2: Installation

This is a Mini-STX form factor (5.5" x 5.8") motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

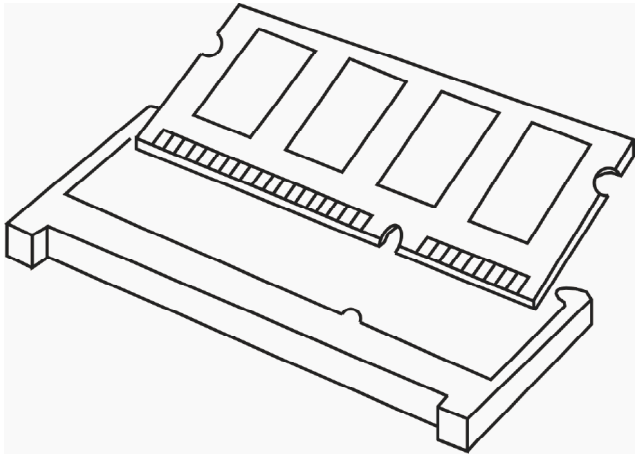
2.3 Installation of Memory Modules (SO-DIMM)

This motherboard provides one DDR4 (Double Data Rate 4) SO-DIMM slot.

1. It is not allowed to install a DDR, DDR2 or DDR3 memory module into a DDR4 slot; otherwise, this motherboard and SO-DIMM may be damaged.
2. Please make sure to disconnect the power supply before adding or removing SO-DIMMs or the system components.
3. The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

Installing a SO-DIMM

Step 1. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.



Step 2. Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

2.4 Expansion Slots (M.2 Slots)

There 2 M.2 slots on this motherboard.

M.2 slots: M.2 (Key B, 2242/2260/2280) supports PCIe x1, USB 2.0 and SATA3.
* It is limited to use BLT_VOL1 when Key B 3042 is plugged.
M.2 (Key E, 2230) supports PCIe x1, CNVi and USB 2.0 for WiFi+BT.

M.2 Key-B Socket (M2_B1)

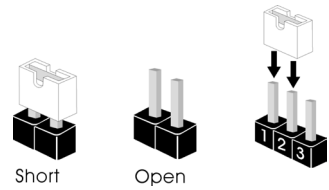
Pin	Signal	Signal	Pin
1	NA	+3.3V	2
3	GND	+3.3V	4
5	GND	FuLL_Card_Power_off	6
7	USB_D+	W_DISABLE	8
9	USB_D-	WWAN_LED#	10
11	GND		
21	GND	NA	20
23	NA	NA	22
25	NA	NA	24
27	GND	NA	26
29	NA	NA	28
31	NA	UIM_RESET	30
33	GND	UIM_CLK	32
35	NA	UIM_DATA	34
37	NA	UIM_PWR	36
39	GND	NA	38
41	PERn0/ SATA-B+	SMB_CLK	40
43	PERp0/ SATA-B-	SMB_DATA	42
45	GND	NA	44
47	PETn0/ SATA-A-	NA	46
49	PETP0/ SATA-A+	NA	48
51	GND	PERST#	50
53	PEFCLKn	CLKREQ#	52
55	PEFCLKp	WAKE#	54
57	GND	NA	56
59	NA	NA	58
61	NA	NA	60
63	NA	NA	62
65	NA	NA	64
67	NA	NA	66
69	PEDET	NA	68
71	GND	+3.3V	70
73	GND	+3.3V	72
75	NA	+3.3V	74

M.2 Key-E Socket (M2_E1)

Pin	Signal	Signal	Pin
1	GND	+3.3V	2
3	USB_D+	+3.3V	4
5	USB_D-	NA	6
7	GND	NA	8
9	CNV_WGR_D1-	CNV_RF_RESET	10
11	CNV_WGR_D1+	NA	12
13	GND	MODEM_CLKREQ	14
15	CNV_WGR_D0-	NA	16
17	CNV_WGR_D0+	GND	18
19	GND	NA	20
21	CNV_WGR_CLK-	CNV_BRI_RSP	22
23	CNV_WGR_CLK+		
33	GND	CNV_BGI_DT	32
35	PETp	CNV_RGI_RSP	34
37	PETn	CNV_BRI_DT	36
39	GND	NA	38
41	PERp	NA	40
43	PERn	NA	42
45	GND	NA	44
47	PEFCLKp	NA	46
49	PEFCLKn	NA	48
51	GND	SUSCLK	50
53	CLKREQ#	PERST0#	52
55	WAKE#	W_DISABLE1#	54
57	GND	W_DISABLE2#	56
59	CNV_WT_D1-	SMB_DATA	58
61	CNV_WT_D1+	SMB_CLK	60
63	GND	NA	62
65	CNV_WT_D0-	CLKIN_XTAL_LCP	64
67	CNV_WT_D0+	NA	66
69	GND	NA	68
71	CNV_WT_CLK-	NA	70
73	CNV_WT_CLK+	+3.3V	72
75	GND	+3.3V	74

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Clear CMOS Jumper
(3-pin CLRMOS1)
(see p.8, No. 28)

Note: CLRMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the system. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the date, time and user default profile will be cleared only if the CMOS battery is removed.

Clear CMOS Jumper
(2-pin CLRMOS2)
(see p.8, No. 28)

Open: Normal
Short: Auto Clear CMOS (Power Off)

Note: CLRMOS2 allows you to clear the data in CMOS automatically when AC power on. The data in CMOS includes system setup information such as system password and system setup parameters. To clear and reset the system parameters to default setup every time when AC power on, please turn off the computer and unplug the power cord, then use a jumper cap to short the pins on CLRMOS2.

Digital Input / Output Power Select (JGPIOPWR)
(3-pin JGPIO_PWR1)
(see p.8 No. 25)

1-2: +12V
2-3: +5V

ATX/AT Mode Select
(3-pin PWR_JP1)
(see p.8 No. 4)

1-2: AT Mode
2-3: ATX Mode

Panel Power Select (LCD_VCC)
(5-pin PNL_PWR1)
(see p.8 No. 10)

Use this to set up the VDD power of the LVDS connector.
1-2: LVDD: +3V
2-3: LVDD: +5V
4-5: LVDD: +12V

Backlight Power Select (LCD_BLT_VCC)
(5-pin BKT_PWR1)
(see p.8 No. 11)

Use this to set up the backlight power of the LVDS connector and the panel backlight power of BLT_PWM1.
1-2: LCD_BLT_VCC: +5V
2-3: LCD_BLT_VCC: +12V
4-5: LCD_BLT_VCC: DC_IN

Backlight Control Level (CON_LBKLT_CTL)
(3-pin BLT_PWM1)
(see p.8, No. 19)

1-2: eDP Level
2-3: CH7511B Control

Digital Input / Output Default Value Setting
(3-pin JGPIO_SET1)
(see p.8, No. 26)

1-2: Pull-High
2-3: Pull-Low

BL1, BL2
(2-pin BL1)
(see p.8, No. 12)

Open: Protect LCD_BLT_VCC
Short: No Protect LCD_BLT_VCC

(2-pin BL2)
(see p.8, No. 14)

Open: Protect LCD_VCC
Short: No Protect LCD_VCC

Battery Power Select
(2-pin PWR_BAT1)
(see p.8, No. 24)

Open: Normal
Short: Charge Battery

Chassis Intrusion Headers

(2-pin CI1, CI2: see p.8, No. 29)

This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

CI1 :

Close : Active Case Open

Open : Normal

CI2 :

Close : Normal

Open : Active Case Open

2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

SATA3 Connectors

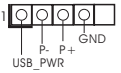
(SATA3_1, SATA3_2: see p.8, No. 18)

These two Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.
*SATA3_2 is share with M2_B1.

USB 2.0 Connector

(4-pin USB2_4)

(see p.8 No. 3)

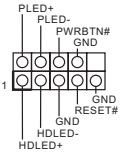


There is one USB 2.0 connector on this motherboard. This USB 2.0 connector can support one USB ports.

System Panel Header

(9-pin PANEL1)

(see p.8 No. 6)



This header accommodates several system front panel functions.

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

3W Audio AMP Output Wafer

(4-pin SPEAKER1)

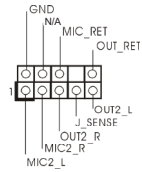
(see p.8 No. 15)

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	OUTLN	2	OUTLP	3	GOUTRP	4	OUTRN

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.8 No. 8)



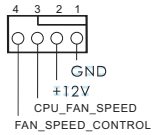
This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. To activate the front mic.
      Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

CPU Fan Connector

(4-pin CPU_FAN1)

(see p.8 No. 5)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

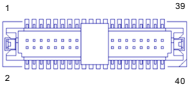
Pin 1-3 Connected

3-Pin Fan Installation

LVDS Connector

(40-pin LVDS1)

(see p.8 No. 13)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	LCD_VCC	2	LCD_VCC	3	+3.3V	4	LDDC_CLK
5	LDDC_DATA	6	LVDS_A_DATA0#	7	LVDS_A_DATA0	8	GND
9	LVDS_A_DATA1#	10	LVDS_A_DATA1	11	GND	12	LVDS_A_DATA2#
13	LVDS_A_DATA2	14	GND	15	LVDS_A_DATA3#	16	LVDS_A_DATA3
17	GND	18	LVDS_A_CLK#	19	LVDS_A_CLK	20	GND
21	LVDS_B_DATA0#	22	LVDS_B_DATA0	23	GND	24	LVDS_B_DATA1#
25	LVDS_B_DATA1	26	GND	27	LVDS_B_DATA2#	28	LVDS_B_DATA2
29	DPLVDD_EN	30	LVDS_B_DATA3#	31	LVDS_B_DATA3	32	GND
33	LVDS_B_CLK#	34	LVDS_B_CLK	35	GND	36	CON_LBKLT_EN
37	CON_LBKLT_CTL	38	LCD_BLT_VCC	39	LCD_BLT_VCC	40	LCD_BLT_VCC

Backlight Volume Control

(7-pin BLT_VOL1)

(see p.8 No. 21)

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
7	GND	6	GND	5	BLT_DW	4	BLT_UP	3	PWRDN	2	GPIO_ VOL_DW	1	GPIO_ VOL_UP

Backlight Power Connector

(6-pin BLT_PWR1)

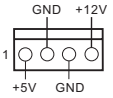
(see p.8 No. 9)

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
6	LCD_BLT_ VCC	5	LCD_ BLT_ VCC	4	CON_ LBKLT_ EN	3	CON_ LBKLT_ CTL	2	GND	1	GND

SATA Power Output Connector

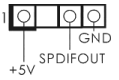
(4-pin SATA_PWR1)

(see p.8 No. 7)



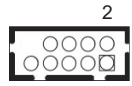
SPDIF Header

(3-pin SPDIF1: see p.8, No. 17)



COM2, 3 Headers

(9-pin COM2/COM3: see p.8, No. 2)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
10	NC	8	CCTS#	6	DDSR#	4	DDTR#	2	RRXD
9	RRI#	7	RRTS#	5	GND	3	TTXD	1	DDCD#

* This motherboard supports RS232/422/485 on COM3 port. Please refer to below table for the pin definition. In addition, COM3 port (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to page 29 for details.

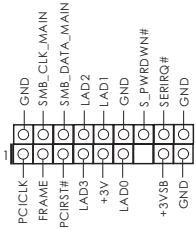
COM3 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	RX+	N/A
3	TXD	TX+	RTX+
4	DTR	RX-	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	RI	N/A	N/A
10	NC	NC	NC

LPC Header

(19-pin LPC1)

(see p.8, No. 23)



This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

DC-in PWR Connector (Input +9V~+24V) & UPS Module Power Output Connector

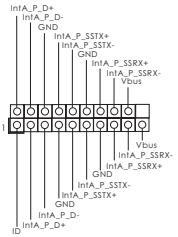
(4-pin FROM_UPS1: see p.8, No. 1)

Pin1 and Pin4: GND
Pin2 and Pin3: DC Input

USB 3.0 Connector

(19-pin USB3_3_4)

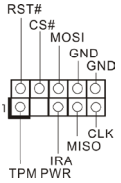
(see p.8 No. 20)



There is one USB 3.0 connector on this motherboard. This USB 3.0 connector can supporttwo USB ports.

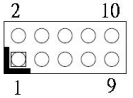
SPI TPM Header

(9-pin SPI_TPM1: see p.8, No. 22)



Digital Input / Output Pin Header

(10-pin JGPIO1: see p.8, No. 27)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
2	SIO_GP30	4	SIO_GP31	6	SIO_GP32	8	SIO_GP33	10	GND
1	SIO_GP34	3	SIO_GP35	5	SIO_GP36	7	SIO_GP37	9	JGPIO_PWR

Back Side:

SIM Card Socket (SIM1)

eDP Connector (EDP1)

PIN	Signal Name
40	NA
39	LCD_BLT_VCC
38	LCD_BLT_VCC
37	LCD_BLT_VCC
36	LCD_BLT_VCC
35	NA
34	NA
33	CON_LBKLT_CTL
32	CON_LBKLT_EN
31	GND
30	GND
29	GND
28	GND
27	eDP_HPD_CON
26	GND
25	GND
24	GND
23	GND
22	NA
21	LCD_VCC
20	LCD_VCC
19	LCD_VCC
18	LCD_VCC
17	GND
16	eDP_AUX#_CON
15	eDP_AUX_CON
14	GND
13	eDP_TX0_CON
12	eDP_TX#0_CON
11	GND
10	eDP_TX1_CON
9	eDP_TX#1_CON
8	GND
7	eDP_TX2_CON
6	eDP_TX#2_CON
5	GND
4	eDP_TX3_CON
3	eDP_TX#3_CON
2	GND
1	NA

2.7 Summary of Internal Power Sources

Onboard Source	3V	5V	12V	12V2	DC-IN
Max. overall Load	1A	5A	1A	1A	2A
SATA_PWR1		1A	1A		
PNL_PWR1	1A	1A		1A	
BKT_PWR1		2A		1A	2A
CPU_FAN1			1A		
JGPIO_PWR1		1A		1A	

Chapter 3: UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Security	To set up the security features
Boot	To set up the default system device to locate and load the Operating System
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use < ← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

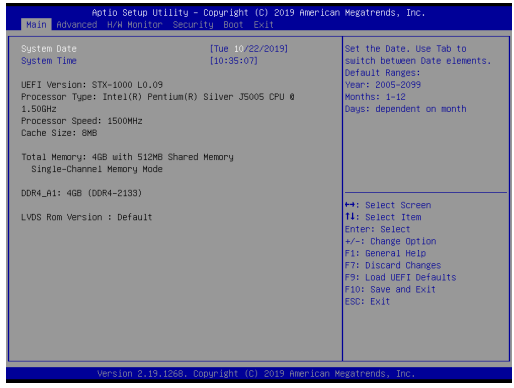
3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

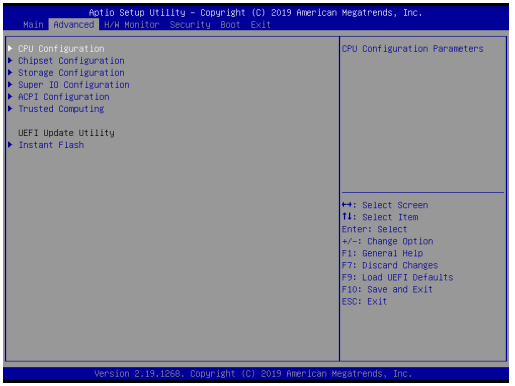
3.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.



3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration and Trusted Computing.

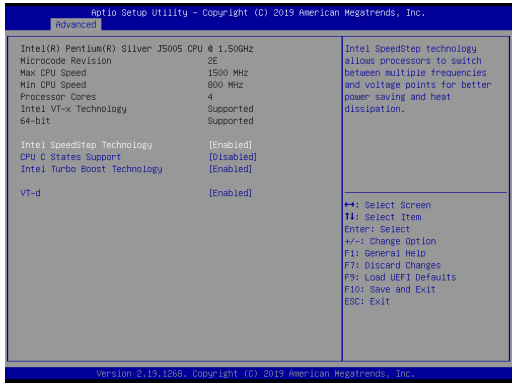


Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

3.3.1 CPU Configuration



Intel SpeedStep Technology

Intel SpeedStep technology allows processors to switch between multiple frequencies and voltage points for better power saving and heat dissipation.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

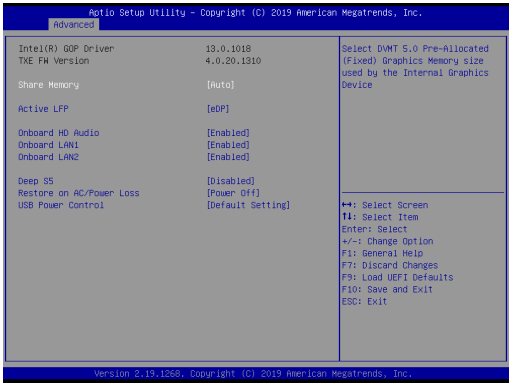
Intel Turbo Boost Technology

Intel Turbo Boost Technology enables the processor to run above its base operating frequency when the operating system requests the highest performance state.

VT-d

Intel® Virtualization Technology for Directed I/O helps your virtual machine monitor better utilize hardware by improving application compatibility and reliability, and providing additional levels of manageability, security, isolation, and I/O performance.

3.3.2 Chipset Configuration



Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

Active LFP

Use this to enable or disable the LFP. The default value is [Disabled].

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature.

Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1 feature.

Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2 feature.

Deep S5

Mobile platforms support Deep S5 in DC only and desktop platforms support Deep S5 in AC only. The default value is [Disabled].

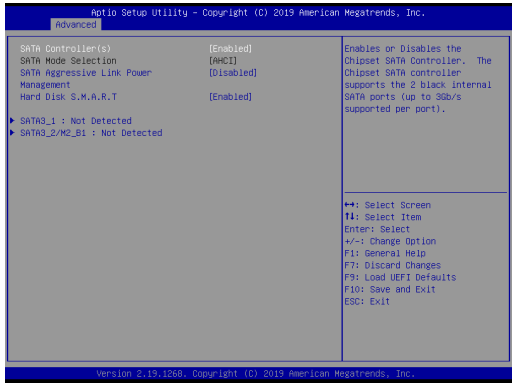
Restore on AC/Power Loss

Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.

USB Power Control

Use this to adjust USB power control.

3.3.3 Storage Configuration



SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [AHCI Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

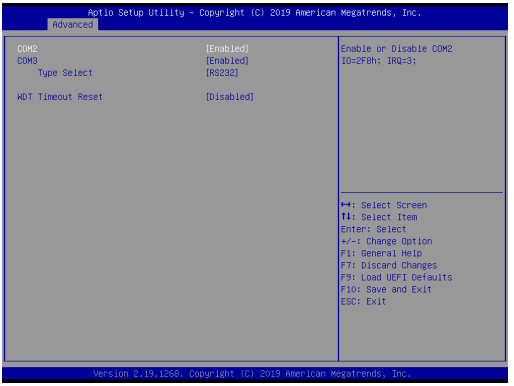
Aggressive Link Power Management

Use this item to configure Aggressive Link Power Management.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

3.3.4 Super IO Configuration



COM2

Use this to enable or disable COM2.

COM3

Use this to enable or disable COM3.

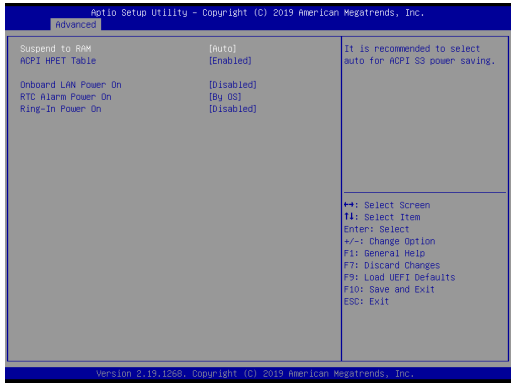
Type Select

Use this to select COM3 port type: [RS232], [RS422] or [RS485].

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.5 ACPI Configuration



Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

Onboard LAN Power On

Allow the system to be waked up by onboard LAN.

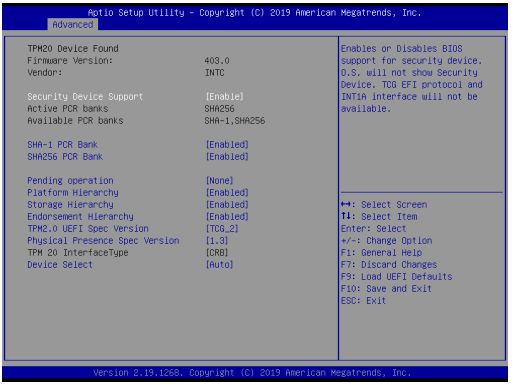
RTC Alarm Power On

Allow the system to be waked up by the real time clock alarm. Set it to By OS to let it be handled by your operating system.

Ring-In Power On

Allow the system to be waked up by onboard COM port modem Ring-In signals.

3.3.6 Trusted Computing

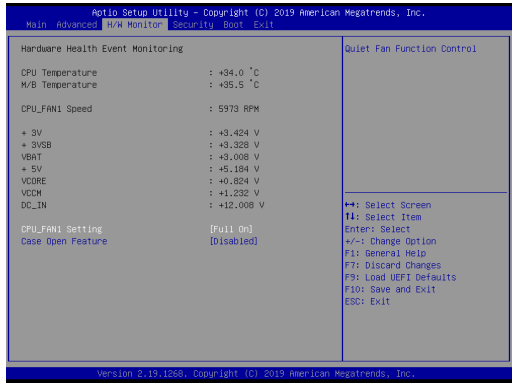


Security Device Support

Enable or disable BIOS support for security device.

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU_FAN1 Setting

This allows you to set CPU_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

Case Open Feature

This allows you to enable or disable case open detection feature. The default is value [Disabled].

Clear Status

This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

3.5 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.

Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

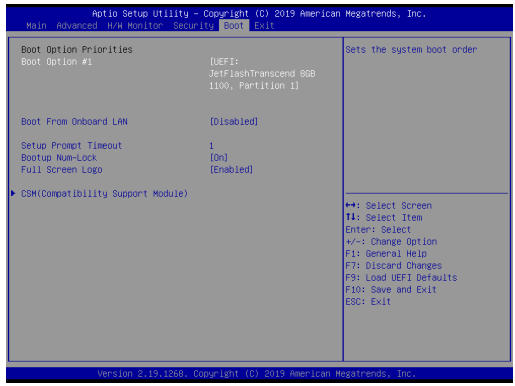
Enable to support Windows 8 / 8.1 64-bit Secure Boot.

Intel(R) Platform Trust Technology

Enable/disable Intel PTT in ME. Disable this option to use discrete TPM Module.

3.6 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key.

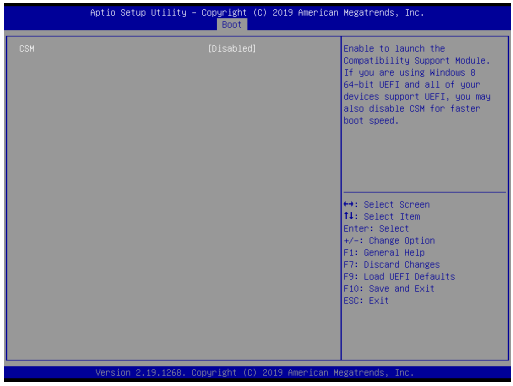
Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

CSM (Compatibility Support Module)



CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows 8 / 8.1 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

Launch PXE OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

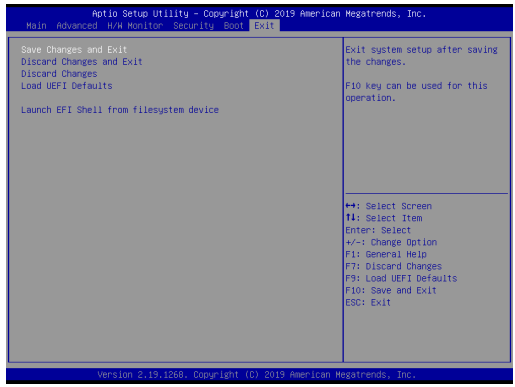
Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

Launch Video OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

3.7 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

Chapter 4: Software Support

4.1 Install Operating System

This motherboard supports Microsoft® Windows® operating systems: 10 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASRSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the application software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRockInd or want to know more about ASRockInd, you're welcome to visit ASRockInd's website at http://www.asrockind.com; or you may contact your dealer for further information.