EOS-1300 Series

EOS-1300/EOS-1310/EOS-1320/EOS-1330

4CH GigE Vision System

User's Manual

Manual Rev.: 2.00

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Part No: 50-1Z222-2000

Advance Technologies; Automate the World.

Revision History

Revision	Release Date	Description of Change(s)
2.00	Nov. 4, 2016	Initial Release

Preface

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Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.

Additional information, aids, and tips that help users perform tasks.

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.

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1 Introduction

The Adlink EOS-1300 4CH GigE vision system provides isolated, real-time DI/O, encoder, and support for PoE (Power over Ethernet) in a compact 232W x 180.8D x 82.8H mm construction. Leveraging 6th Generation Intel® Core™ i7 Processors, the EOS-1300 is suitable for multi-camera high resolution machine vision applications that require high computing power, and offers not only an internal USB port but also onboard SHA-256 security EEPROM to help manage copy protection and license authentication. Special DI/O features like De-bounce filter, FPGA based trigger I/O, and Encoder interlocking can be configured by software API maximum flexibility and significantly reduced TCO.

With its highly integrated DI/O function, GigE vision, and PoE technology, the EOS-1300 is the ideal choice for machine production or factory automation operations requiring compact size, 2 to 4 GigE-enabled cameras, and DI/O & Encoder control.

1.1 Features

- 6th Gen Intel® Core™ i7/i5/i3 processors
- FPGA-based DI/O, trigger I/O and encoder functions, fixed and low latency
- 232W x 180.8D x 82.8H mm (9.1 x 7.1 x 3.4 in) with front-mounted I/O
- Internal USB port and onboard SHA-256 License Security EEPROM for third party software protection
- Up to 4CH GigE vision camera with PoE (power over Ethernet) support

1.2 Specifications

	EOS-1300	EOS-1310	EOS-1320	EOS-1330
System Core				
Processor	Intel® Core™ i7-6700	Intel® Core™ i5-6500	Intel® Core™ i3-6100	Intel® G3900
Memory	DDR4 2133 4GB (up to 32 GB)			
OS				
Supported OS	W7P/W8.1/W10 64bit			
Graphics				
Display Port	2			
Camera Interface				
GigE Vision	4-CH Gigabit, support for PoE (power over Ethernet), IEEE 802.3af compliant PoE output: 8W/port			
I/O interface				
Ethernet	2 x Intel GbE ports			
DI/O	Isolated 12 DI, 16 DO			
Encoder	Isolated 2CH A/B/Z encoder			
USB	4 x USB3.0 + 4 x USB2.0 + 1 x USB2.0 internal			
Series port	1 x RS-232/422/485, (COM1, adjusted by switch) 1 x RS-232, COM2			
Audio	7.1 channel audio via 5 jacks and S/PDIF output			
Power Supply				
DC input	24V DC			
Physical				
Dimension	232W x 180.8D x 82.8H mm (9.1 x 7.1 x 3.2 in)			
Weight	3kg (6.6bs)			
Mount	DIN rail or wall-mount			
Environmental				
Operating Temperature	0 to 55°C			
Storage Temperature	-20 to 85°C (-4°F to 185°F)			
Humidity	Approx. 90% @40°C (non-condensing)			

	EOS-1300	EOS-1310	EOS-1320	EOS-1330
Vibration	Operating 0.5 Grms, 5-500 Hz, 3 axes w/HDD Operating 1 Grms, 5-500 Hz, 3 axes w/ SSD			
Shock	Operating 20G, half sine 11 ms duration			
EMC	CE & FCC Class A			
Safety	CE/LVD, UL, CB			

Power Consumption		
Power off	1.2W (0.05A@24VDC)	In shutdown mode with DC input and only USB keyboard/mouse
System idle	21W (0.86A@24VDC)	Under Windows Desktop with no application programs executed
System full load	164W (6.81A@24VDC)	▶ Total PoE loading is 32W ▶ Dummy load of 4.5W in connection to represent each USB 3.0 load ▶ Dummy load of 2.5W in connection to represent each USB 2.0 load ▶ HDD permanently accessed ▶ CPU(i7-6700) @ 100% loading (by Burn-in test program)
Recommended power supply	180W	

1.3 Mechanical Drawings

NOTE:

All dimensions shown are in millimeters (mm) unless otherwise stated.

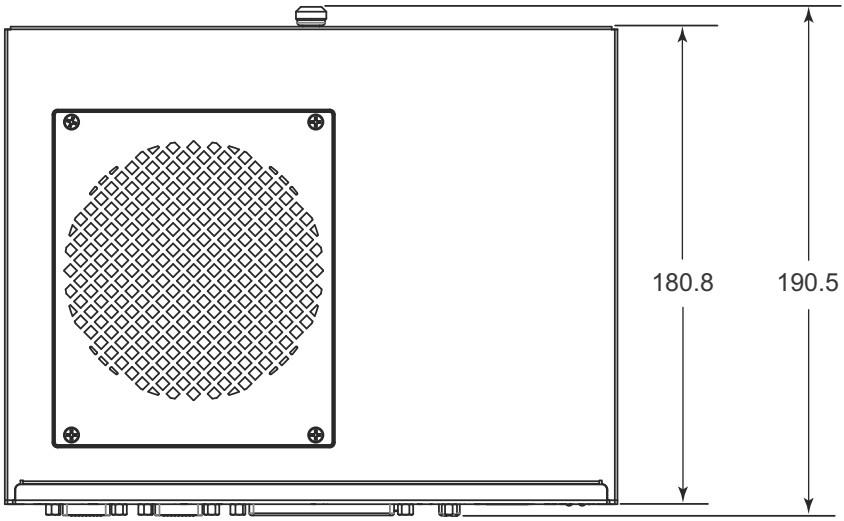

Figure 1-1: Top View

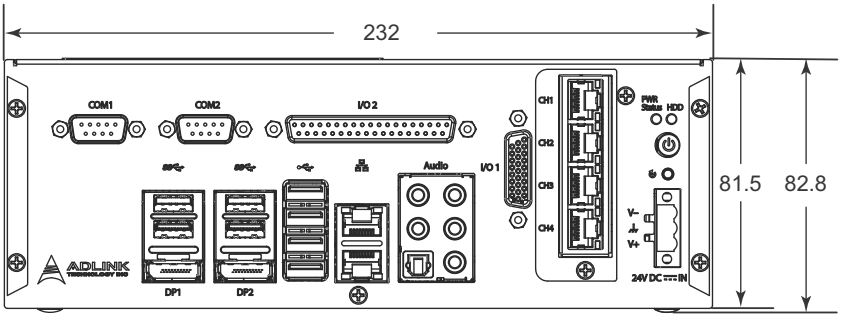

Figure 1-2: Front View

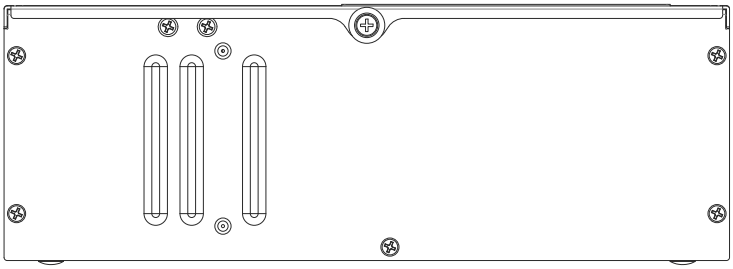

Figure 1-3: Rear View

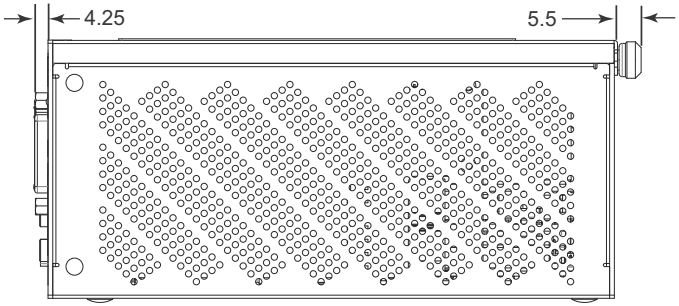

Figure 1-4: (Right) Side View

1.4 Front Panel I/O Connectors

Figure 1-5: Front Panel I/O

I/O connectors and controls on the EOS-1300 front panel, as labeled, are as follows

- LED Indicators
- Power button
- Reset button
- DC power connector
- GigE camera port
- I/O 1, DB-26P Digital I/O connector
- Audio connectors, 7.1 channel audio via 5 jacks and S/PDIF output
- LAN ports, no PoE function
- USB2.0 ports
- Display ports
- USB3.0 ports
- COM1 and COM2, Serial ports
- I/O 2, DB-37P Digital I/O and Encoder Connector

1.4.1 LED Indicators

In addition to the LED of the power button, LEDs on the front panel indicating operations as follows.

LED	Color	Lit	Off
PWR Status	Amber	System is operating	System is in sleep (S1/S3), hibernate (S4), or power off (S5) state
HDD	Green	SATA hard drive is active	N/A

Table 1-1: LED Indicator Legend

1.4.2 Power Button

Push button with blue LED indicator. System is turned on when button is pressed, and the power LED lit. If the system hangs, depressing the button for 5 seconds powers down the unit.

1.4.3 Reset Button

Executes hard reset.

1.4.4 DC Power Connector

Consists of V+, chassis ground, and V- pins. V+ and V- pins accept DC power input and chassis ground pin enhances EMC compatibility. The DC power input accepts 24 VDC input.

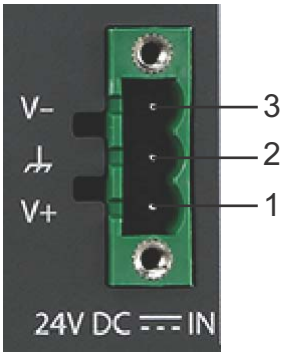

Figure 1-6: Power Supply Connector Pin Assignments

Pin	Signal
1	V+(DC_IN)
2	GND(CHGND)
3	V- (DGND)

Table 1-2: DC Power Supply Connector Signals

1.4.5 GigE Camera Port

CH1 to CH4 connect GigE cameras and support PoE (Power over Ethernet) functions, with support as follows.

- 4x fully-integrated Gigabit Ethernet Media Access Control (MAC) and physical layer (PHY) ports
- IEEE 802.3.af compliant for up to 8 W/channel with power up to 48 V over existing CAT-5e Ethernet infrastructure with no need for modification
- Standard IEEE 802.3 Ethernet interface for 1000BASE-T, 100BASE-TX, and 10BASE-T applications
- Smart PoE function provides manual power down of PoE supply with software API
- 9 kB jumbo frame support

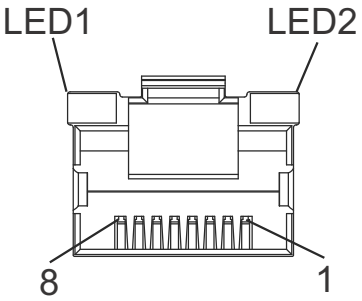

Figure 1-7: GigE Camera Port

Pin	Signal
1	MDI0+ (PoE_DC48V)
2	MDI0- (PoE_DC48V)
3	MDI1+ (PoE_DC0V)
4	MDI2+ (PoE_DC48V)
5	MDI2- (PoE_DC48V)
6	MDI1- (PoE_DC0V)
7	MDI3+ (PoE_DC0V)

Pin	Signal
8	MDI3- (PoE_DC0V)

Table 1-3: GigE Camera Port Pin Assignments

LED	Color	Activity	
LED1 (Speed)	Green/ Yellow	Unlit	10Mbps
		Green	100Mbps
		Yellow	1000Mbps
LED2 (Active/Link)	Green	Unlit	Ethernet port is disconnected
		Lit	Ethernet port is connected with no activity
		Flashing	Ethernet port is connected and active

Table 1-4: LED Indicator Legend

1.4.6 Digital I/O and Encoder Connectors (I/O1 and I/O2)

I/O1 is a DB-26P connector receiving 8CH isolated digital input (DI CH0 to 7) and 8CH isolated digital output (DO CH0 to 7). DI/O channels 0 to 3 can be configured to trigger I/O via API (see EOS-1300 Function Library Reference document).

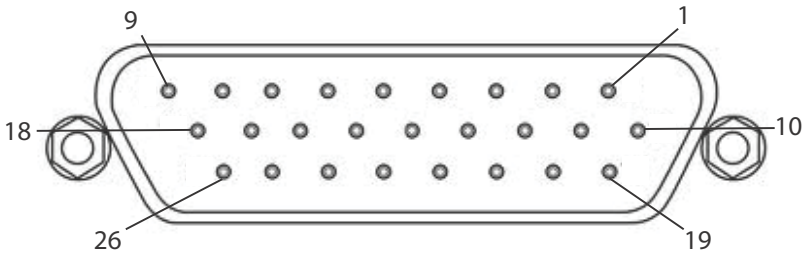

Figure 1-8: I/O1, DB-26P Digital I/O Connector

Pin	Signal	Pin	Signal
1	IDI_0H	14	IDO_2
2	IDI_1H	15	IDO_2_COM
3	IDI_2H	16	IDO_3
4	IDI_3H	17	IDO_3_COM
5	IDI_0_1_2_3L	18	IDI_4_5_6_7L
6	IDI_4H	19	IDO_4
7	IDI_5H	20	IDO_4_COM
8	IDI_6H	21	IDO_5
9	IDI_7H	22	IDO_5_COM
10	IDO_0	23	IDO_6
11	IDO_0_COM	24	IDO_6_COM
12	IDO_1	25	IDO_7
13	IDO_0_COM	26	IDO_7_COM

Table 1-5: I/O1, DB-26P Connector Pin Assignments

I/O2 is a DB-37P connector receiving 4CH isolated digital input (DI CH8 to 11), 8CH isolated digital output (DO CH8 to 15), with 2CH isolated Encoder General Purpose input/output application with isolation requirement recommended.

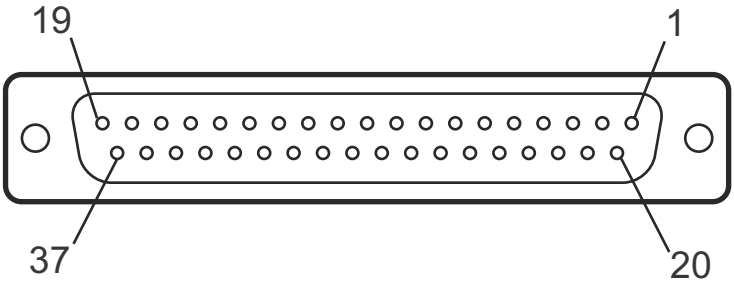

Figure 1-9: I/O2, DB-37P Digital I/O and Encoder Connector

Pin	Signal	Pin	Signal
1	IDI_8H	20	IDI_9H
2	IDI_10H	21	IDI_11H
3	IDI_8_9_10_11L	22	IDO_8
4	IDO_8_COM	23	IDO_9
5	IDO_9_COM	24	IDO_10
6	IDO_10_COM	25	IDO_11
7	IDO_11_COM	26	IDO_12
8	IDO_12_COM	27	IDO_13
9	IDO_13_COM	28	IDO_14
10	IDO_14_COM	29	IDO_15
11	IDO_15_COM	30	EA1+
12	EA0+	31	EA1-
13	EA0-	32	EB1+
14	EB0+	33	EB1-
15	EB0-	34	EZ1+
16	EZ0+	35	EZ1-
17	EZ0-	36	N/A
18	N/A	37	N/A
19	N/A		

Table 1-6: I/O2 DB-37P Connector Pin Assignments

DI/O and Encoder Electrical Specifications

12CH Isolation DI	
Logic high	5 to 24V
Logic low	0 to 0.8V
Input resistance	2.4kΩ @ 1W
Isolation voltage	1.5kV DC channel 0 to 11
Maximum delay	Opto-isolator turn on: 15μs Opto-isolator turn off: 150μs
Recommended input current	5mA

16CH Isolation D0	
Logic high	Max. 30V
Logic low	Max. 3.5V @ 100mA
Sink/Source current	Max. 100mA
Isolation voltage	1.5kV DC channel 0 to 15
Maximum delay	Opto-isolator turn on: 25μs Opto-isolator turn off: 300μs

2CH Encoder	
Input voltage	5V ± 5%
Encoder frequency	Max. 50kHz
Encoder input	EA/EB
Encoder index	EZ
Isolation voltage	1.5kV DC channels 0 to 1

1.4.7 Serial ports (COM1 and COM2)

COM1 supports RS-232/422/485 based on switch setting on the mainboard, with RS-232 the default, and COM2 supports RS-232 only.

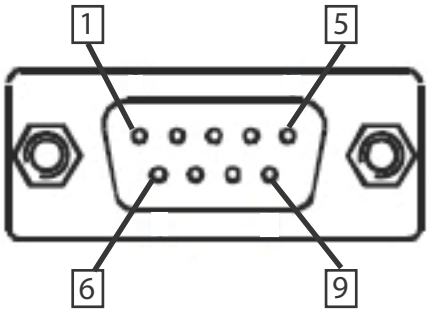

Figure 1-10: COM1 and COM2 Connectors

Pin	Signal		
	RS232	RS422	RS485
1	DCD#	TXD422-	485DATA-
2	RXD	TXD422+	485DATA+
3	TXD	RXD422+	N/S
4	DTR#	RXD422-	N/S
5	GND	N/S	N/S
6	DSR#	N/S	N/S
7	RTS#	N/S	N/S
8	CTS#	N/S	N/S
9	RI#	N/S	N/S

Table 1-7: COM1 and COM2 Connectors Pin Assignments

Setting COM1

COM1 can be set to RS-232/422/485 using switch SWS1M1, located on the mainboard as shown.

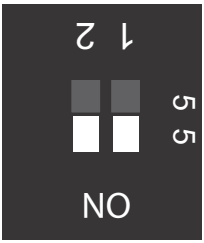

Figure 1-11: SWS1M1 Switch

Figure 1-12: SWS1M1 Switch Location

Switch settings are as follows.

	1	2
RS-232 (Default)	ON	OFF
RS-422	ON	ON
RS-485	OFF	ON

Table 1-8: SWS1M1 Switch Setting

1.4.8 LAN Ports

Two LAN Ethernet controllers based on Intel® i219LM/i211AT both support up to 1Gb/s.

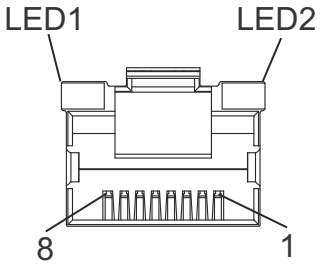

Figure 1-13: LAN Port

Pin	10BASE-T/100BASE-TX	1000BASE-T
1	TX+	LAN_MDI0+
2	TX-	LAN_MDI0-
3	RX+	LAN_MDI1+
4	N/A	LAN_MDI2+
5	N/A	LAN_MDI2-
6	RX-	LAN_MDI1-
7	N/A	LAN_MDI3+
8	N/A	LAN_MDI3-

Table 1-9: LAN Port Pin Definitions

LED	Activity	
LED1 (Active/Link)	Off	No Link
	Orange	Link Active
	Blinking	Data Activity
LED2 (Speed)	Off	10 Mb connection
	Green	100 Mb connection
	Orange	1 Gb connection

Table 1-10: LAN Port LED Legend

1.4.9 DisplayPort Connectors

Two DisplayPort v1.1 connections support up to 3840x2160 @ 30Hz.

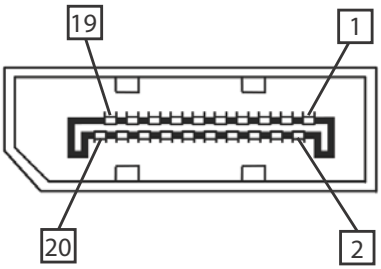

Figure 1-14: DisplayPort Connector

Pin	Signal	Pin	Signal
1	CN_DP0_P	2	GND
3	CN_DP0_N	4	CN_DP1_P
5	GND	6	CN_DP1_N
7	CN_DP2_P	8	GND
9	CN_DP2_N	10	CN_DP3_P
11	GND	12	CN_DP3_N
13	CN_CAD-L	14	CN_CEC
15	CN_AUX_P	16	GND
17	CN_AUX_N	18	DDP_HPD
19	GND	20	P3V3

Table 1-11: DisplayPort Pin Assignment

1.4.10 USB Ports

4 USB 3.0 and 4 USB 2.0 ports each provide 5V power for connected devices.

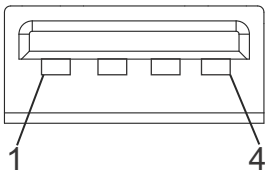

Figure 1-15: USB 2.0

Pin	Signal
1	Vcc
2	UV0-
3	UV0+
4	GNE

Table 1-12: USB 2.0 Pin Assignments

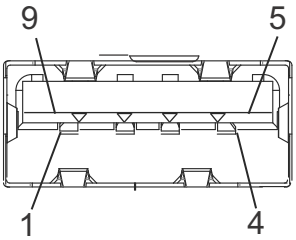

Figure 1-16: USB 3.0

Pin	Signal
1	USB3.0_P5VA
2	USB2_CMAN
3	USB2_CMAP
4	GND
5	USB3A_CMRXN
6	USB3A_CMRXP
7	GND

Pin	Signal
8	USB3A_CMTXN
9	USB3A_CMTXP

Table 1-13: USB 3.0 Pin Assignments

1.5 DI/O and Encoder Sample Circuits

1.5.1 Isolated Digital Input Circuits

The input can accept voltages up to 24V, with extra 2.4kΩ input resistors (Rs). Connections between outside signals are as follows.

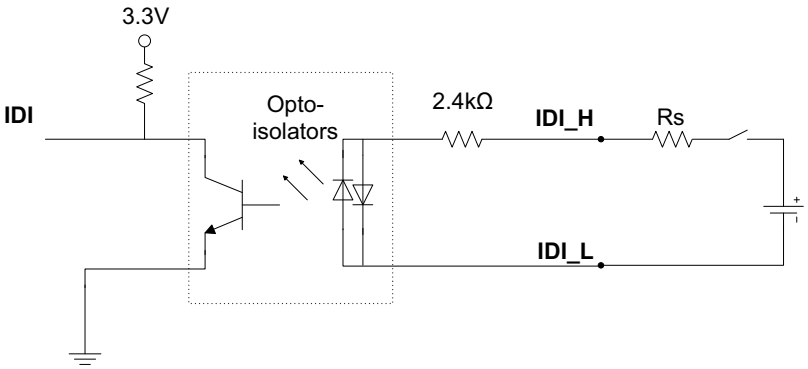

Figure 1-17: Digital Input Sample Application Circuit

1.5.2 Isolated Digital Output Circuits

Outputs 0 to 15 provide up to 100mA current (maximum). These outputs are typically connected (directly or indirectly) to other devices, such as a trigger input, PLC input, relay, or indicator light.

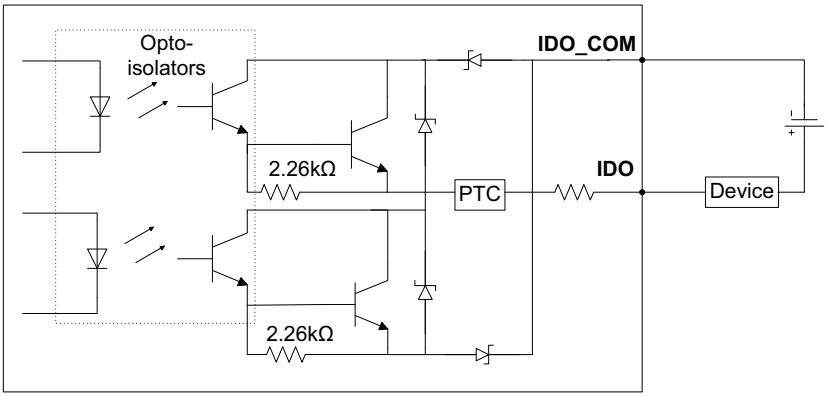

Figure 1-18: Digital Output Sample Application Circuit for Sink Type

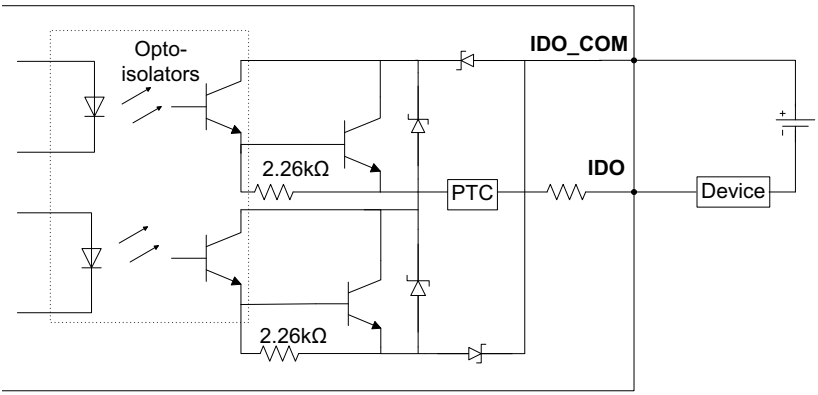

Figure 1-19: Digital Output Sample Application Circuit for Source Type

1.5.3 Isolated Encoder Input Circuits

Encoder inputs can connect to either a single-ended or differential encoder. Using an encoder allows input and output delay values to be specified in pulse counts rather than real time units.

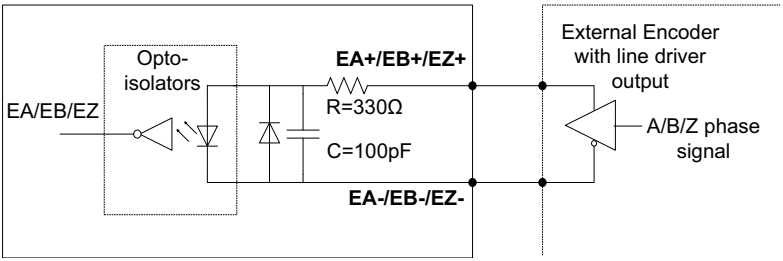

Figure 1-20: Encoder Input Sample Application Circuit for Line Driver

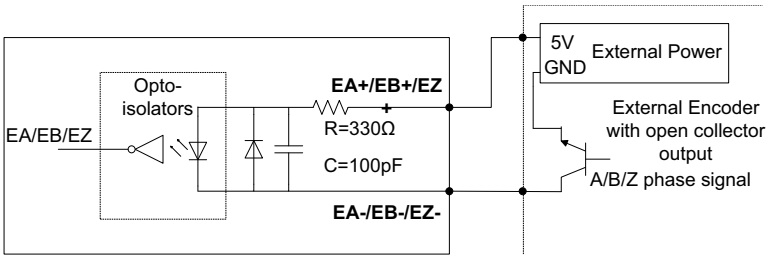

Figure 1-21: Encoder Input Sample Application Circuit for Open Collector

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2 Getting Started

2.1 Unpacking Checklist

Before unpacking, check the shipping carton for any damage. If the shipping carton and/or contents are damaged, inform your dealer immediately. Retain the shipping carton and packing materials for inspection. Obtain authorization from your dealer before returning any product to ADLINK. Ensure that the following items are included in the package.

- EOS-1300
- Quick Start Guide

2.2 Adaptors & Additional Accessories

Device adaptors and other optional accessories should only be obtained through your ADLINK dealer. For more information, see “Getting Service” on page 73.

2.3 Installing Memory

1. Remove the top cover thumbscrews by hand or screwdriver.

2. Remove the top cover.

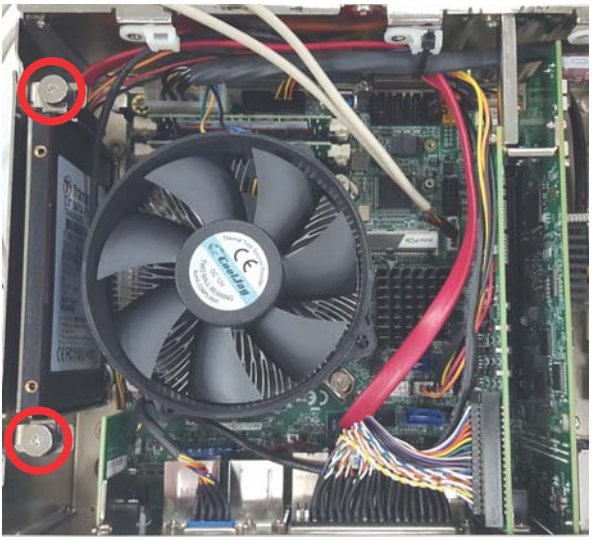
3. Insert the memory module into the DDR4 SO-DIMM socket and press down until the module is properly seated and the retaining clips close on the module.

2.4 Installing a Hard Disk or SS Drive

1. Remove the top cover as detailed previously.
2. Unplug the SATA cable.

3. Remove the two screws from the case underside.

4. Remove the two screws fixing the drive bracket.



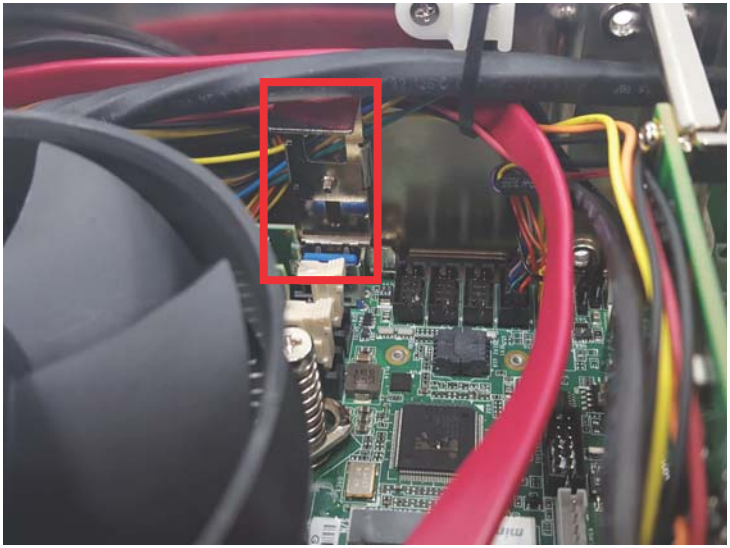
5. Withdraw the bracket and remove the four bracket screws.

6. Remove and/or replace the drive, secure the drive, and note the orientation.

7. Replace the four bracket screws.
8. Replace and secure the SSD or HDD bracket, and fasten the fixing screws.
9. Replace the case underside screws.
10. Insert and secure the SATA cable.
11. Replace the top cover.

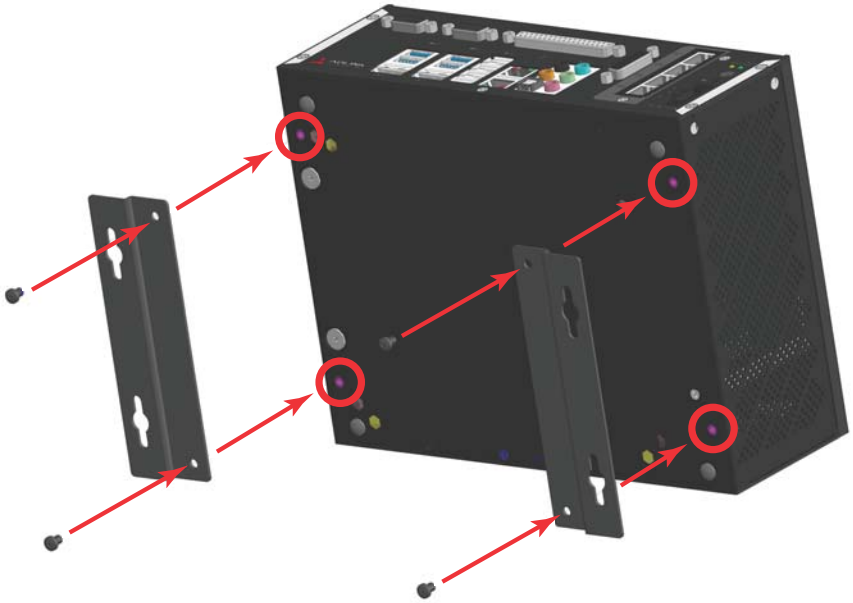
2.5 Installing the Internal USB Dongle

1. Remove the top cover as detailed previously.
2. Plug the USB dongle into the USB port.



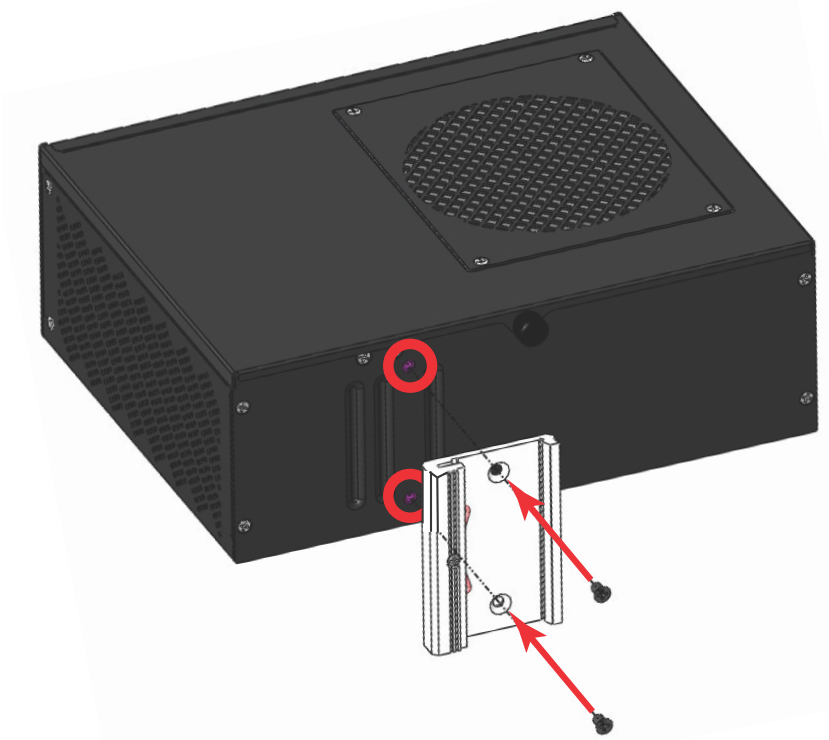
2.6 Installing Wall-mount Brackets

Secure the provided wall-mount brackets in the four screw holes in the underside of the chassis, as shown.



2.7 Installing DIN Rail Bracket

Secure the provided DIN rail bracket via the two screw holes on the rear side of the chassis, as shown.



2.8 Cooling Considerations

To maximize the efficiency of fan-based heat dissipation, maintain a minimum 3cm (1.2 inches) clearance from the top vents and 5cm (2 inches) from the side vents.

2.9 Driver Installation

Due to lack of controller support under Windows 7, successful OS installation may be prevented. For available solutions, please contact your ADLINK representative.

Download requisite drivers, as follows, for your system from http://www.adlinktech.com and install.

- Chipset
- Graphics
- IRST
- LAN
- Audio
- USB3
- KMDF (Only if Windows 7 is installed)
- ME
- Serial I/O (Only if Windows 8.1/10 is installed)
- DI/O

Appendix A BIOS Setup


NOTE:

BIOS options in the manual are for reference only, and are subject to configuration.

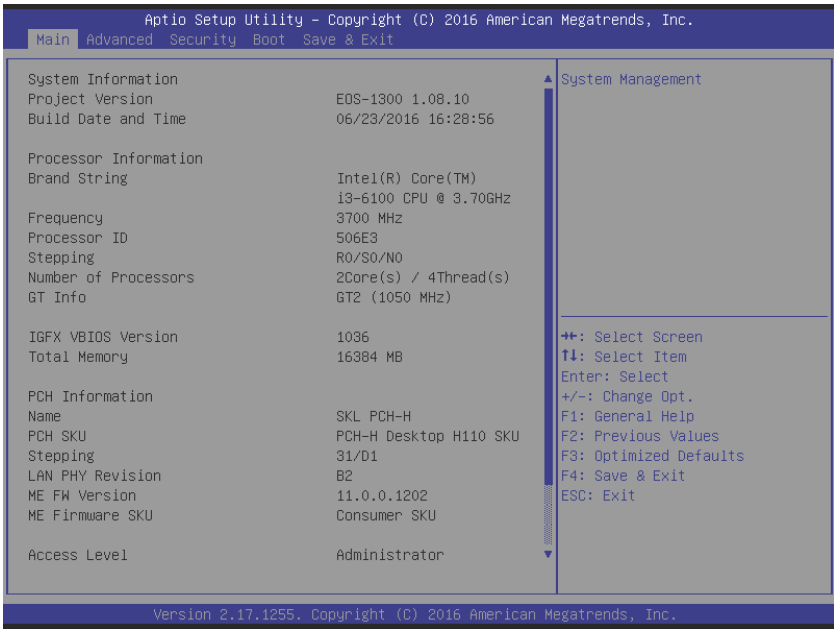
The Basic Input/Output System (BIOS) is a program that provides a basic level of communication between the processor and peripherals. In addition, the BIOS also contains codes for various advanced features applied to the EOS-1300. The BIOS setup program includes menus for configuring settings and enabling features of the EOS-1300 series. Most users do not need to use the BIOS setup program, as the EOS-1300 ships with default settings that work well for most configurations.

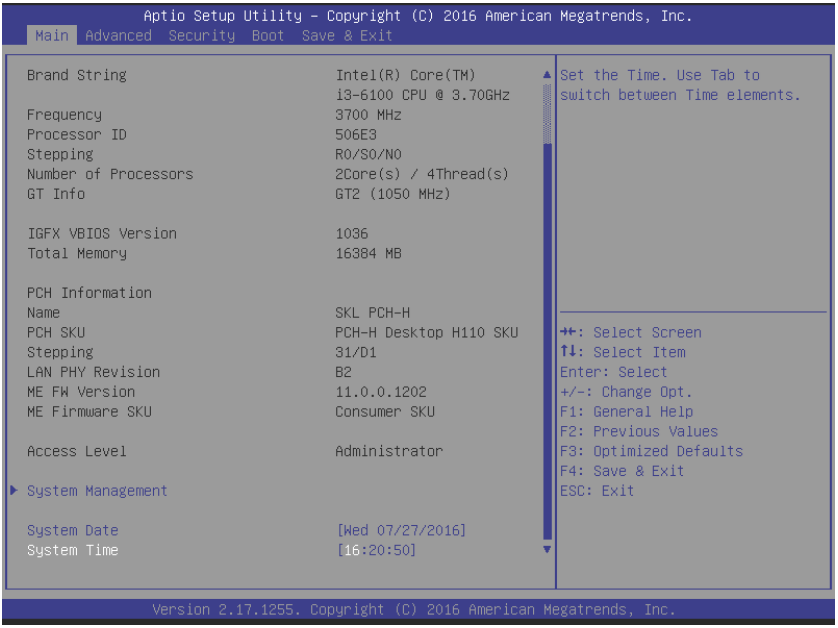
Enter BIOS setup by selecting DEL when the system is powered on the POST (Power On Self Test) message is displayed.The EOS-1300 controller supports one-time Boot Menu allowing selection of boot device. Enter the Boot Menu by selecting F7 at POST.


NOTE:

- BIOS options listed are for reference only.
- Different configurations can affect BIOS behavior.
- Displayed material may reflect only the BIOS version corresponding to initial release and may differ from that of the purchased motherboard.

A.1 Main


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main Advanced Security Boot Save & Exit
System Information
Project Version EOS-1300 1.08.10
Build Date and Time 06/23/2016 16:28:56
Processor Information
Brand String Intel(R) Core(TM) i3-6100 CPU @ 3.70GHz
Frequency 3700 MHz
Processor ID 506E3
Stepping R0/S0/N0
Number of Processors 2Core(s) / 4Thread(s)
GT Info GT2 (1050 MHz)
IGFX VBIOS Version 1036
Total Memory 16384 MB
PCH Information
Name SKL PCH-H
PCH SKU PCH-H Desktop H110 SKU
Stepping 31/D1
LAN PHY Revision B2
ME FW Version 11.0.0.1202
ME Firmware SKU Consumer SKU
Access Level Administrator
System Management
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1255. Copyright (C) 2016 American Megatrends, Inc.



System Information

Shows current system project version, build date and time.

Processor Information

Shows current system brand string, frequency, processor id, stepping, number of processors, GT info, IGFX VBIOS version, and total memory.

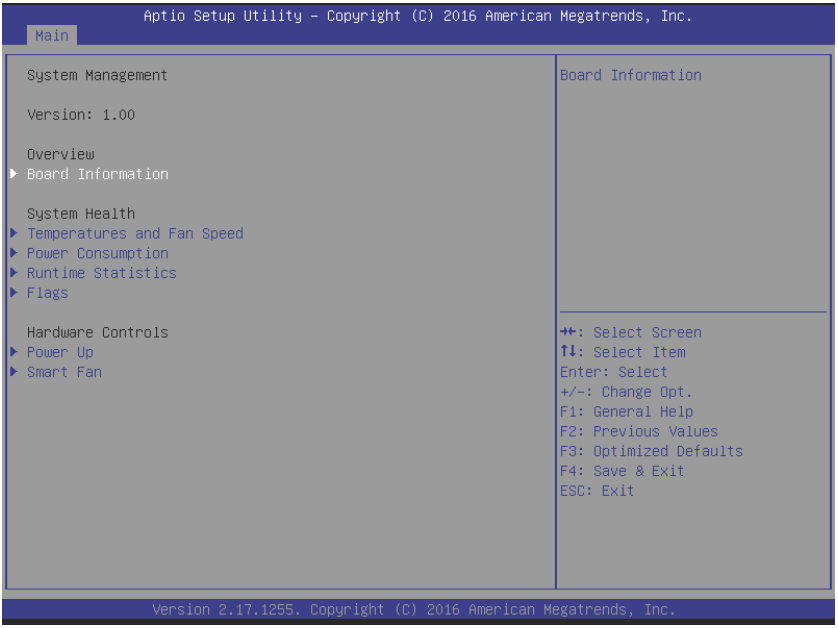
PCH Information

Shows current system Name, PCH SKU, stepping, LAN PHY revision, ME FW version and ME firmware SKU.

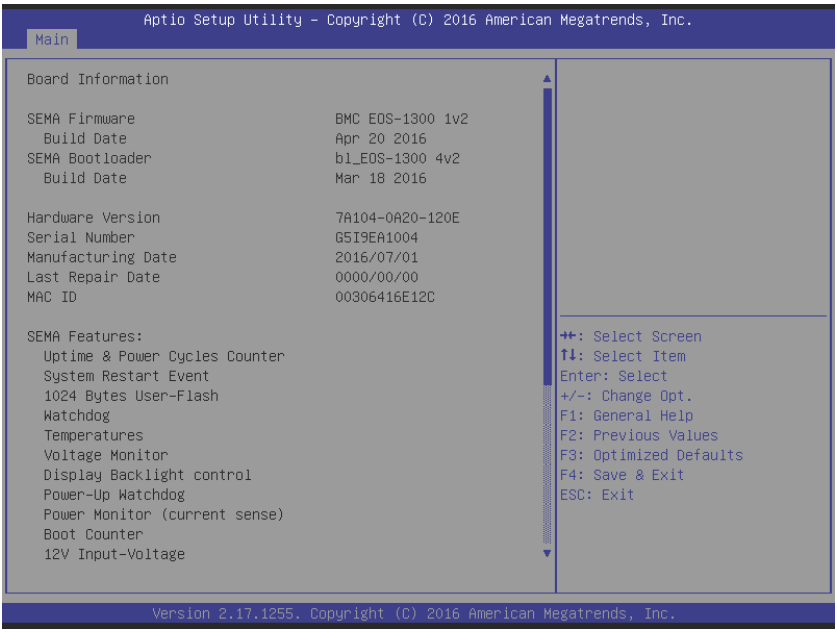
System Time/System Date

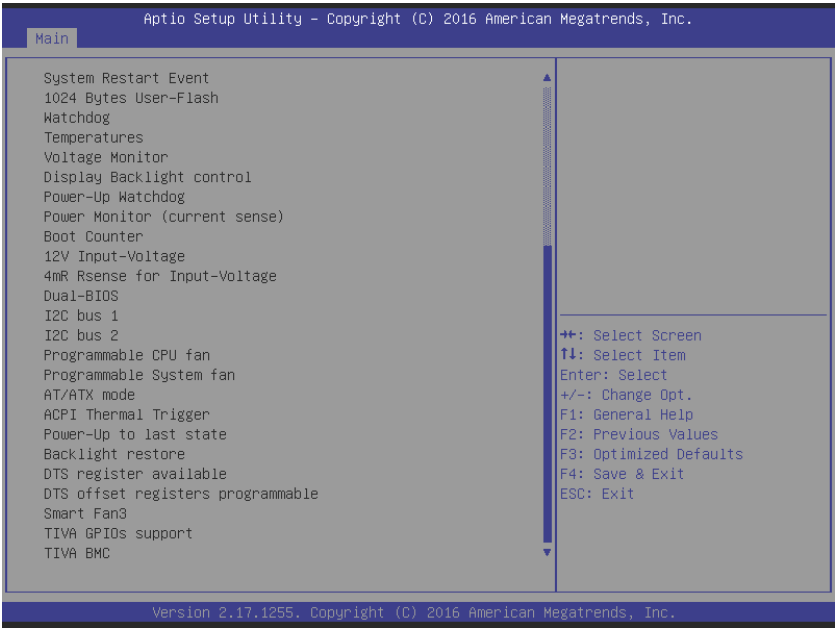
Changes system time and date. Highlight System Time or System Date using up or down Arrow keys. Enter new values using the keyboard then Enter. Use Tab to move between fields.

A.1.1 System Management



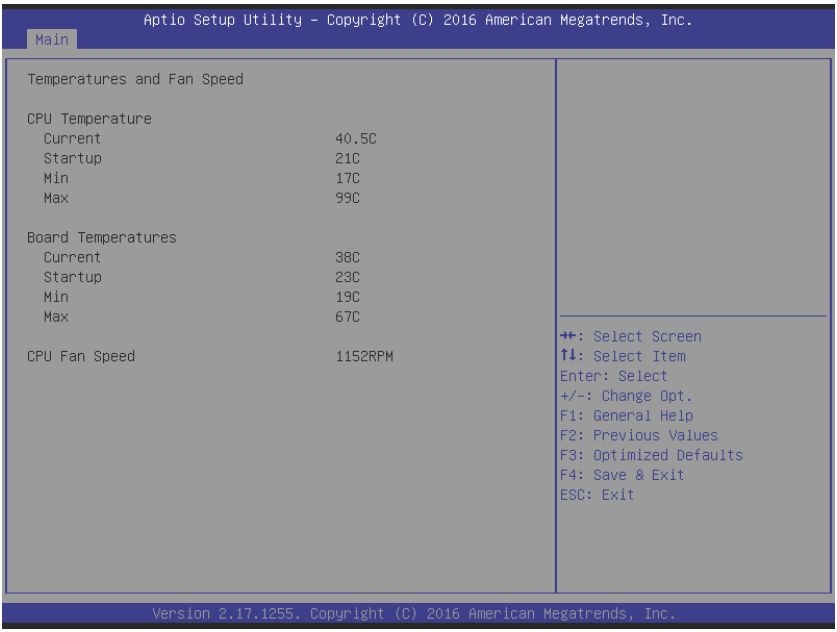
Board Information





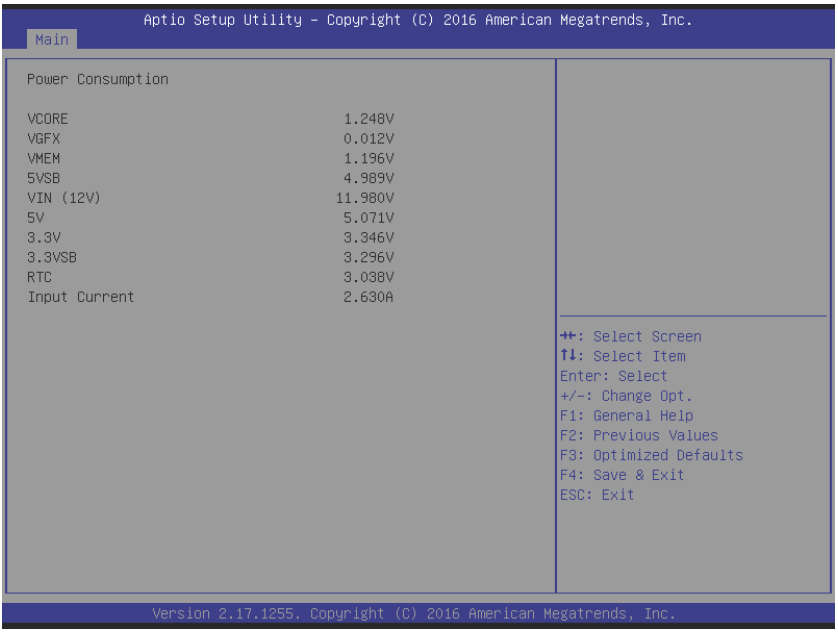
Shows current system SEMA firmware, SEMA firmware build date, SEMA bootloader, SEMA bootloader build date, hardware version, serial number, manufacturing date, last repair date, MAC ID and SEMA features.

Temperatures and Fan Speed



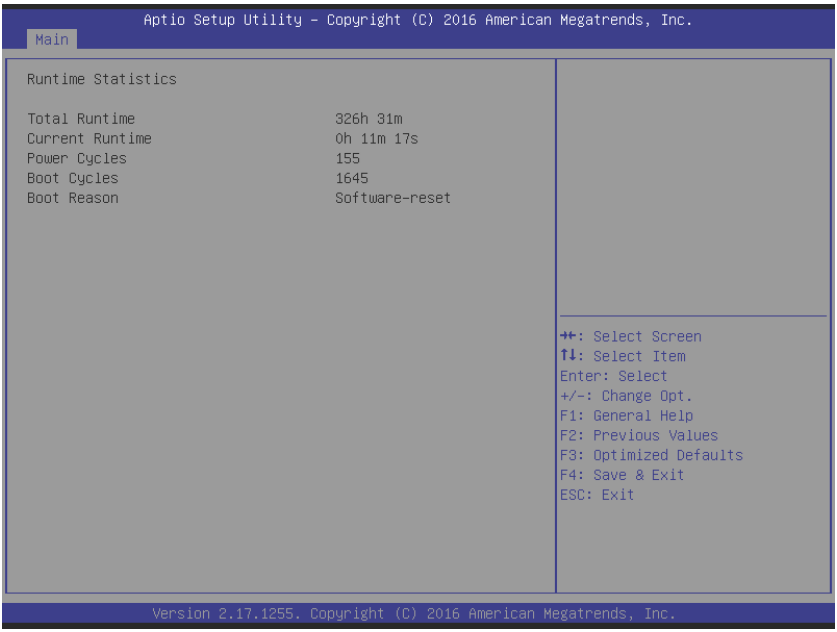
Shows current system CPU and board temperatures and CPU fan speed.

Power Consumption



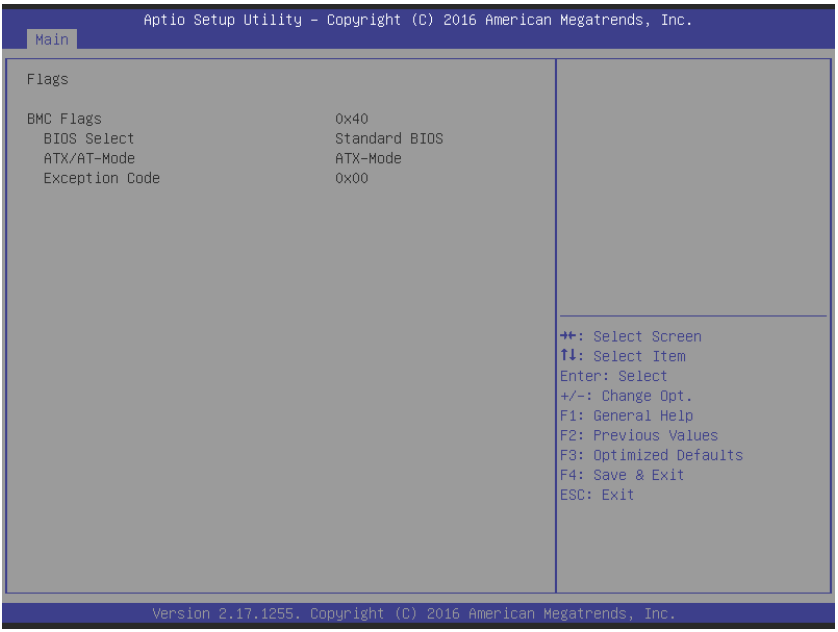
Shows current system VCORE, VGFX, VMEM, 5VSB, VIN (12V), 5V, 3.3V, 3.3VSB, RTC and input current.

Runtime Statistics



Shows current system total runtime, current runtime, power cycles, boot cycles, and boot reason.

Flags

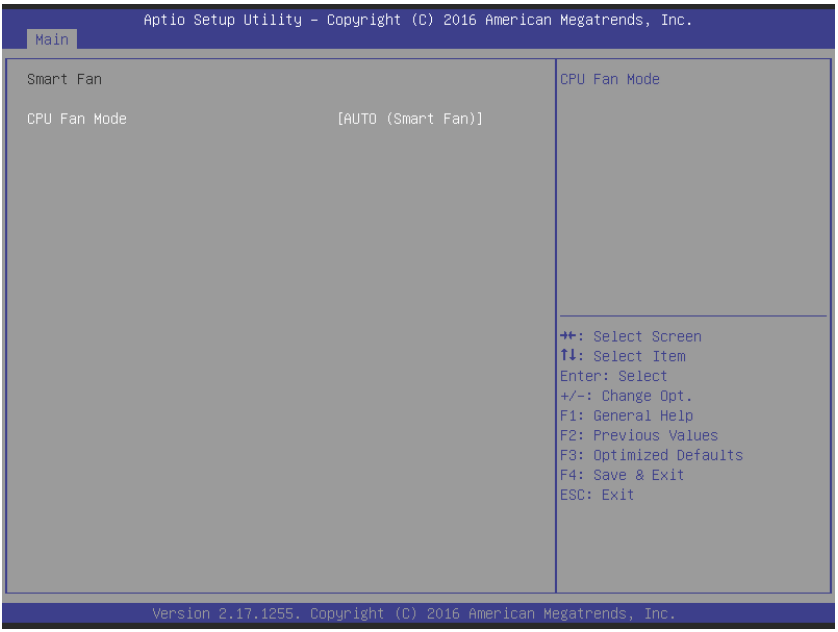


Shows current system BMC flags, BIOS select, ATX/AT-mode and exception code.

Power Up

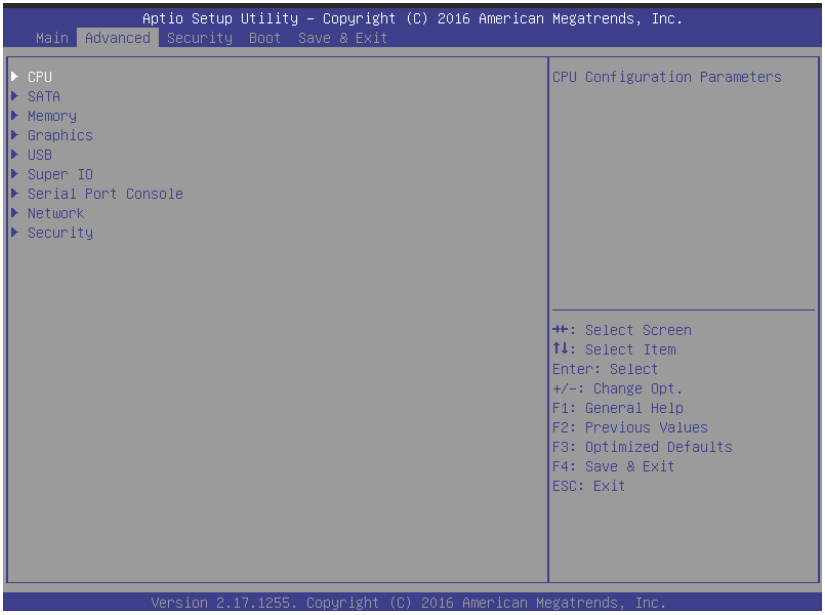
Enables/disables Power Up Watchdog reset of the system a certain amount of time after power up. Pressing F12 during startup disables Power Up Watchdog.

Smart Fan



Sets CPU fan mode from AUTO (Smart Fan) or Full Speed.

A.2 Advanced

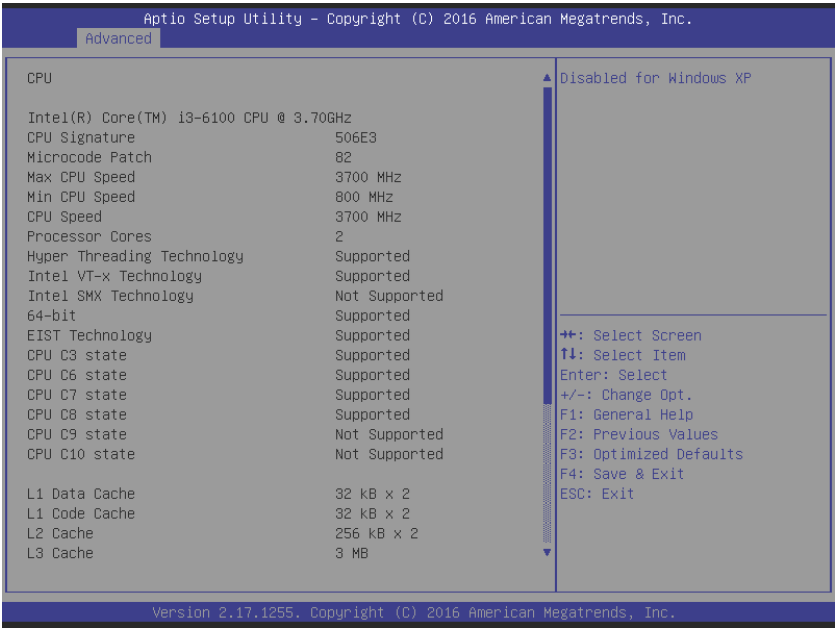


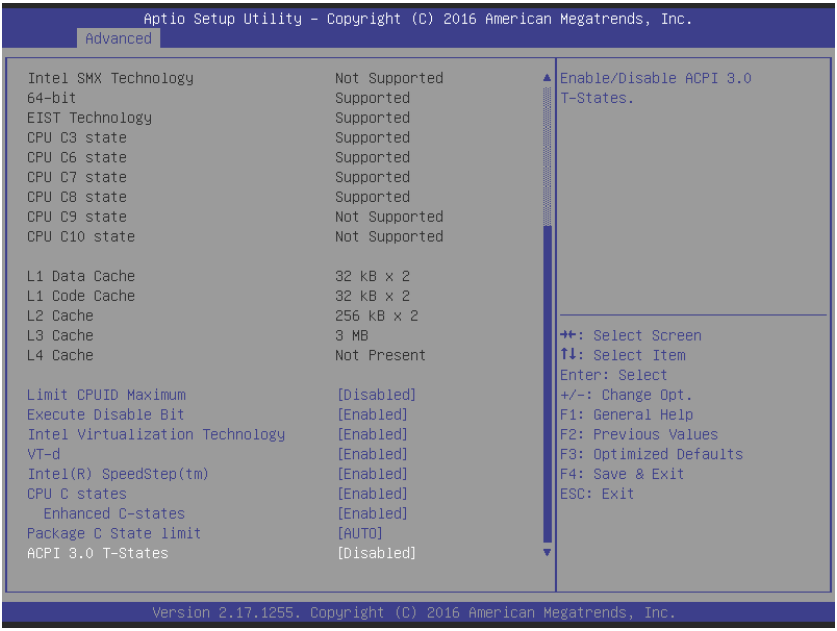
CAUTION:

Setting incorrect or conflicting values in Advanced BIOS Setup may cause system malfunction

Accesses advanced options of the EOS-1300.

A.2.1 CPU


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Advanced
CPU
Intel(R) Core(TM) i3-6100 CPU @ 3.70GHz
CPU Signature 506E3
Microcode Patch 82
Max CPU Speed 3700 MHz
Min CPU Speed 800 MHz
CPU Speed 3700 MHz
Processor Cores 2
Hyper Threading Technology Supported
Intel VT-x Technology Supported
Intel SMX Technology Not Supported
64-bit Supported
EIST Technology Supported
CPU C3 state Supported
CPU C6 state Supported
CPU C7 state Supported
CPU C8 state Supported
CPU C9 state Not Supported
CPU C10 state Not Supported
L1 Data Cache 32 kB x 2
L1 Code Cache 32 kB x 2
L2 Cache 256 kB x 2
L3 Cache 3 MB
Disabled for Windows XP
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1255. Copyright (C) 2016 American Megatrends, Inc.



Limit CPUID Maximum

Disabled for Windows XP.

Execute Disable Bit

XD can prevent certain malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, or Red Hat Enterprise 3 Update 3).

Intel® Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

VT-d

Enables/disables VT-d capability.

Intel® SpeedStep(tm)

Allows more than two frequency ranges to be supported.

Turbo Mode

Enables/disables Intel® TurboBoost Technology.

CPU C states

Enables/disables CPU C states.

Enhanced C-states

Enables/disables C1E. When enabled, CPU will switch to minimum speed when all cores enter C-State.

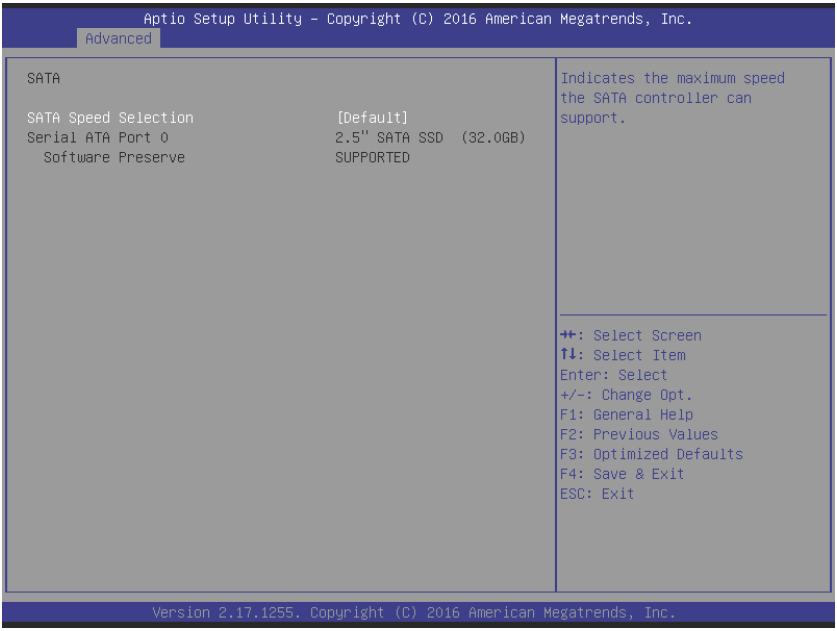
Package C State limit

CPU package C state limit.

ACPI 3.0 T-States

Enables/disables ACPI 3.0 T-States.

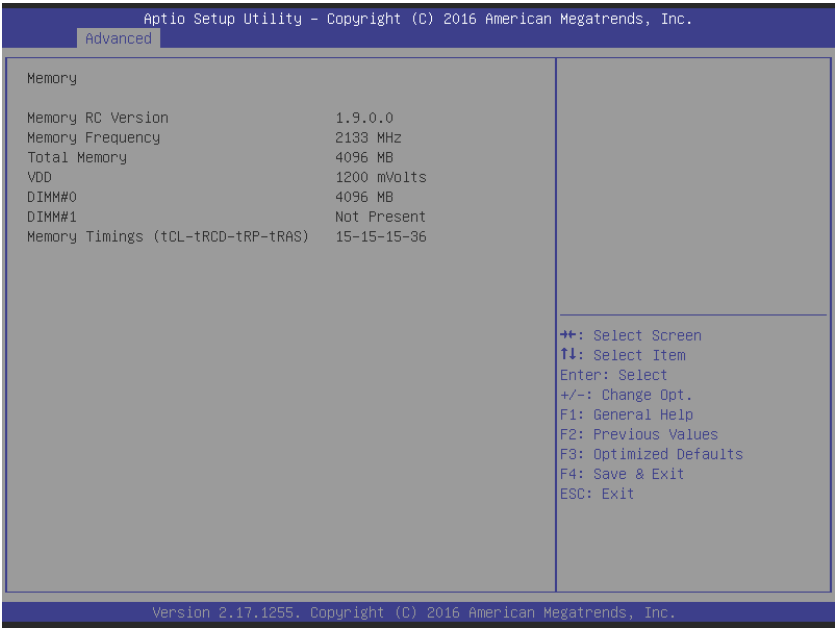
A.2.2 SATA



SATA Speed Selection

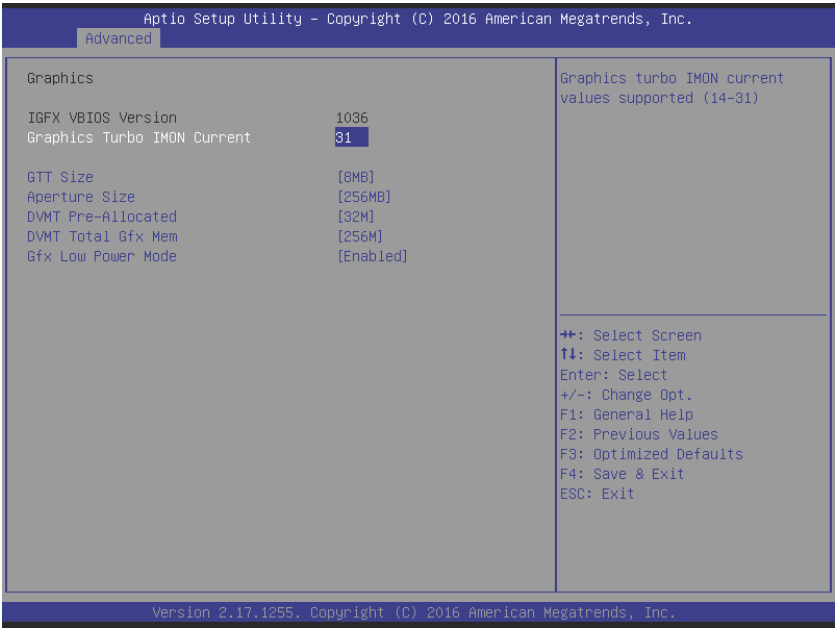
Indicates the maximum speed the SATA controller can support.

A.2.3 Memory



Shows current system memory RC version and values for memory frequency, total memory, VDD, DIMM#0, DIMM#1 and Memory Timings (tCL-tRCD-tRP-tRAS).

A.2.4 Graphics



Graphics Turbo IMON Current

Graphics turbo IMON current values supported (14-31).

GTT Size

Sets GTT size.

Aperture Size

Sets aperture size. OVer 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture, when CSM support is disabled.

DVMT Pre-Allocated

Sets DVMT 5.0 Pre-allocated (Fixed) graphics memory size used by the internal graphics device.

DVMT Total Gfx Mem

Sets DVMT5.0 Total graphic memory size as used by the internal graphics device.

Gfx Low Power Mode

Applicable for SFF only.

A.2.5 USB

Legacy USB Support

Enables Legacy USB support, with AUTO disabling legacy support if no USB devices are connected and DISABLE keeping USB devices available only for EFI applications.

XHCI Hand-Off

A workaround for OS without XHCI hand-off support, with XHCI ownership change claimed by XHCI driver.

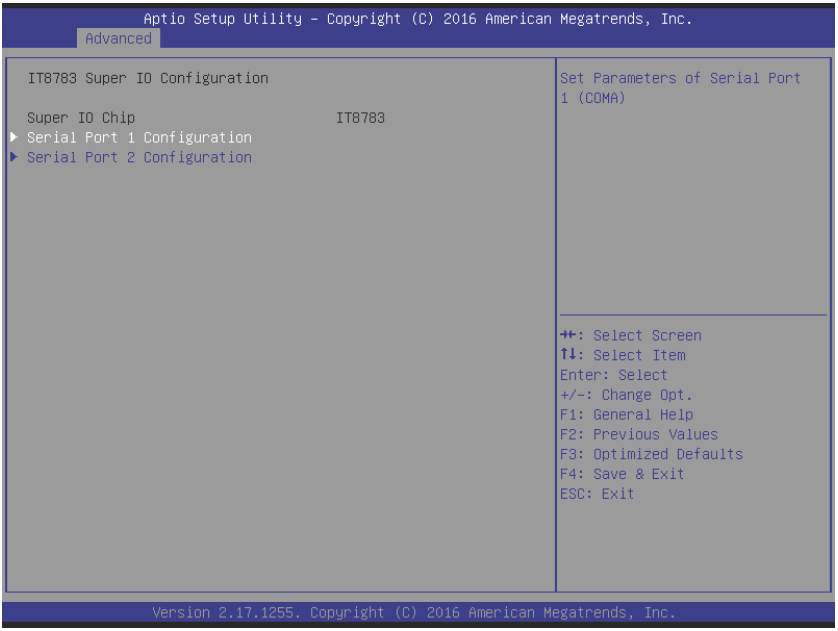
USB Mass Storage Driver Support

Enables/disables USB mass storage driver support.

Port 60/64 Emulation

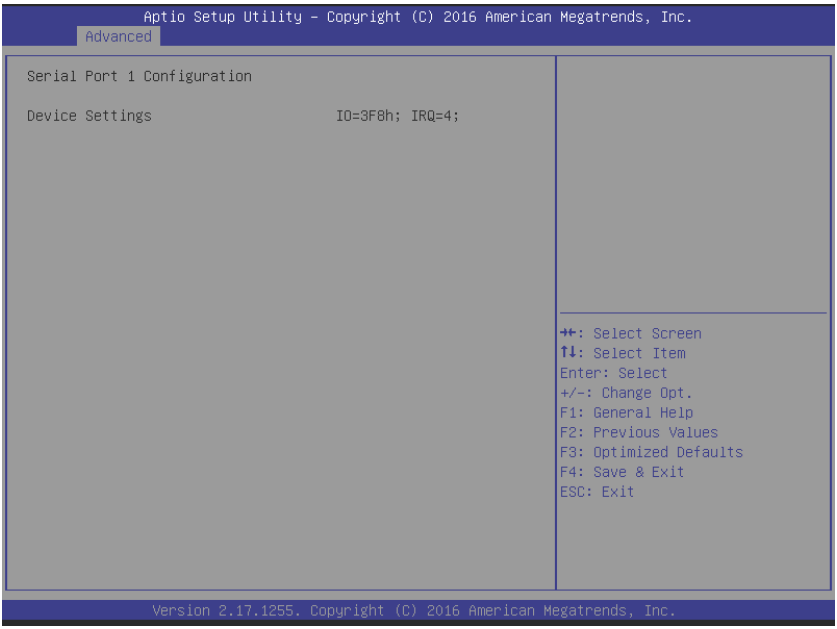
Enables I/O port 60h/64h emulation support, and should be enabled for complete USB keyboard legacy support for non-USB aware OS.

A.2.6 Super IO

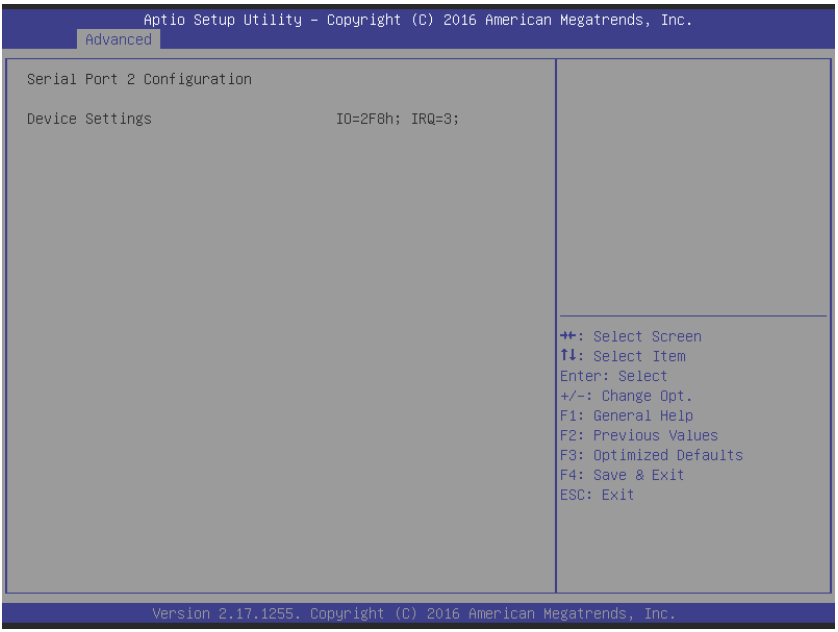


Shows current system Super IO Chip, Serial Port 1 Configuration and Serial Port 2 Configuration.

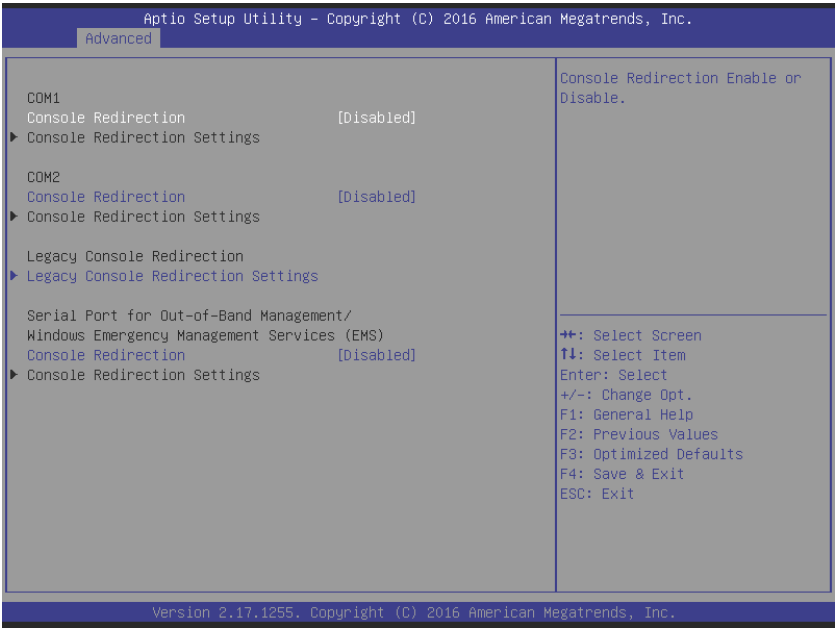
Serial Port 1 Configuration



Serial Port 2 Configuration



A.2.7 Serial Port Console



Console Redirection

Enables console redirection on COM 1 to 2 and EMS COM.

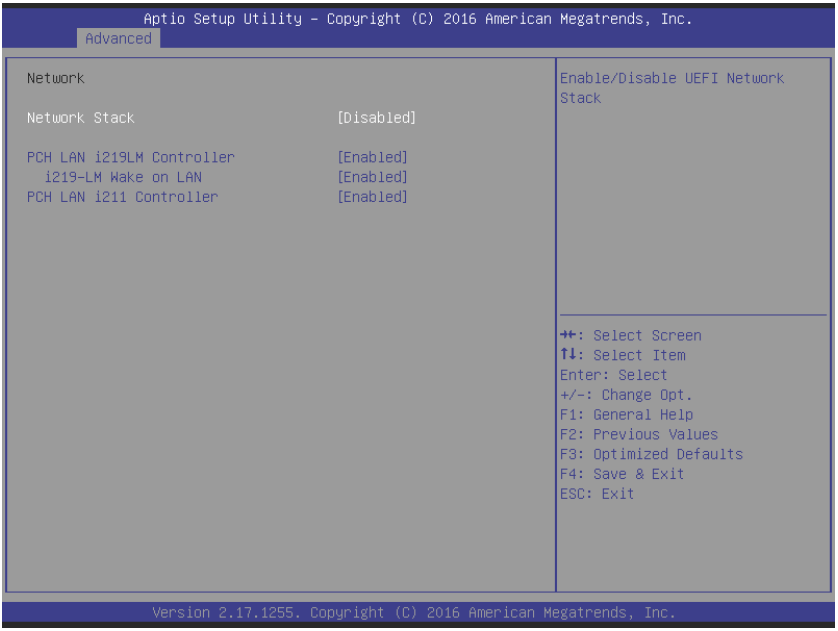
Console Redirection Settings

Sets miscellaneous parameters for COM Ports 1 to 2 and EMS COM.

Legacy Console Redirection Settings

Selects a COM port to display redirection of Legacy OS and Legacy OPROM Messages.

A.2.8 Network



Network Stack

Enables/disables UEFI network stack.

PCH LAN i219LM Controller

Enables/disables onboard NIC i219LM.

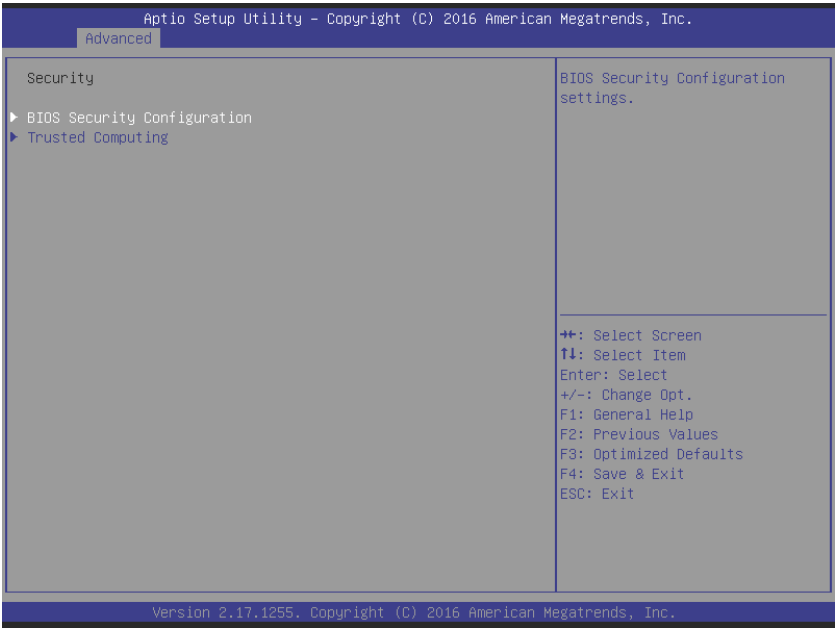
i219-LM Wake on LAN

Enables/disables integrated LAN to wake the system. (The Wake On LAN cannot be disabled if ME is on at Sx state.)

PCH LAN i211 Controller

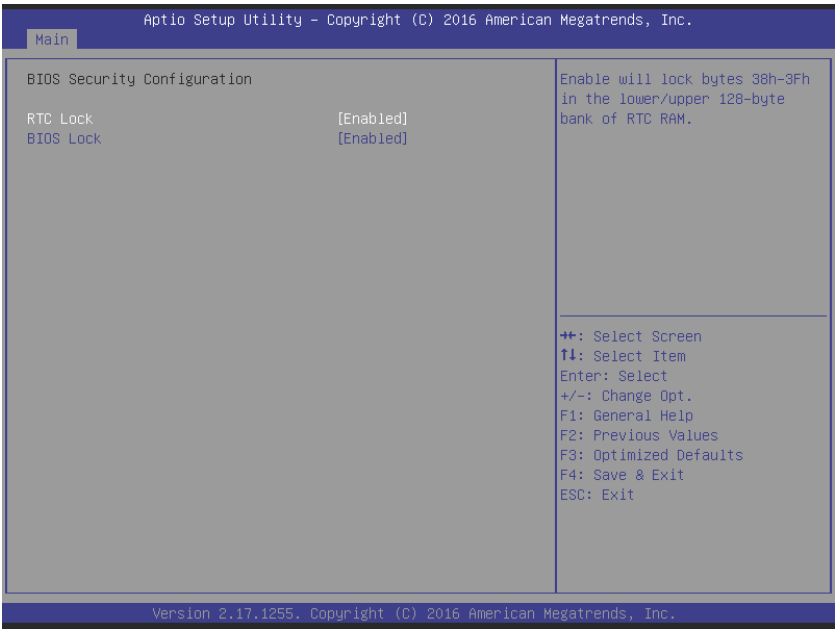
Enables/disables onboard NIC i211.

A.2.9 Security



Displays current system BIOS security configuration and Trusted Computing settings.

BIOS Security Configuration



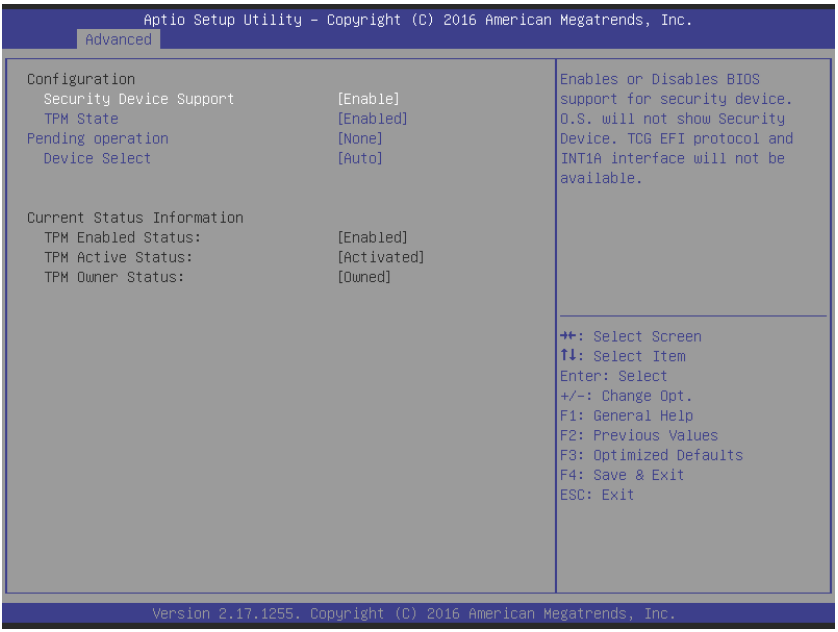
RTC Lock

When enabled, locks bytes 38h-3Fh in the lower/upper 128-byte bank of RTC RAM.

BIOS Lock

Enables/disables PCH BIOS Lock Enable (BLE bit).

Trusted Computing



Security Device Support

Enables/disables BIOS support for security device, with OS not showing Security Device and TCG EFI protocol and INT1A interface unavailable.

TPM State

Enables/disables Security Device. Computer will reboot during restart in order to change State of the Device.

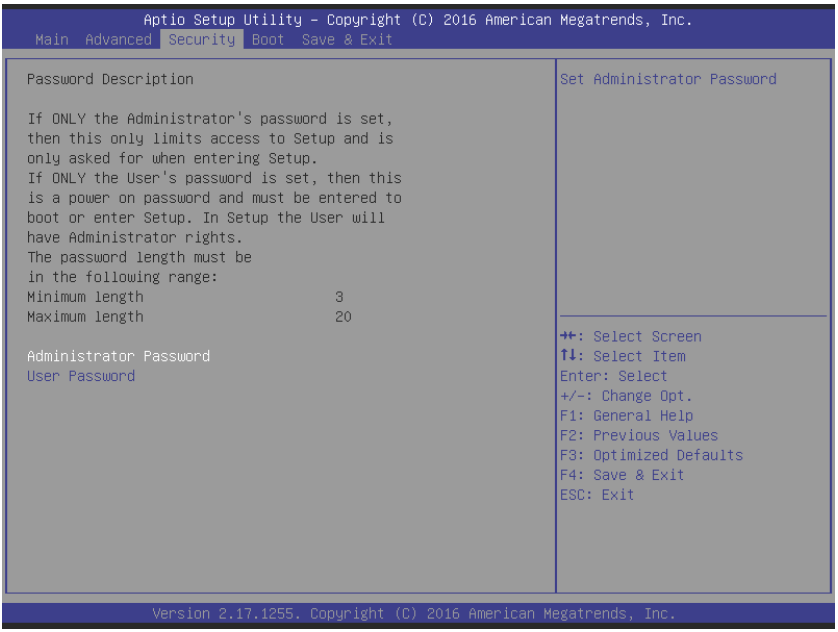
Pending operation

Schedules operations for the Security Device. Computer will reboot during restart in order to change State of Security Device.

Device Select

TPM 1.2 restricts support to TPM 1.2 devices, TPM 2.0 restricts support to TPM 2.0 devices, Auto supports both with the default set to TPM 2.0 devices if not found, and TPM 1.2 devices are enumerated.

A.3 Security



If only the Administrator's password is set, access to Setup is limited and the password requested when entering. If only the user's password is set, power on requires authentication to boot or enter Setup. In Setup the user has Administrator rights.

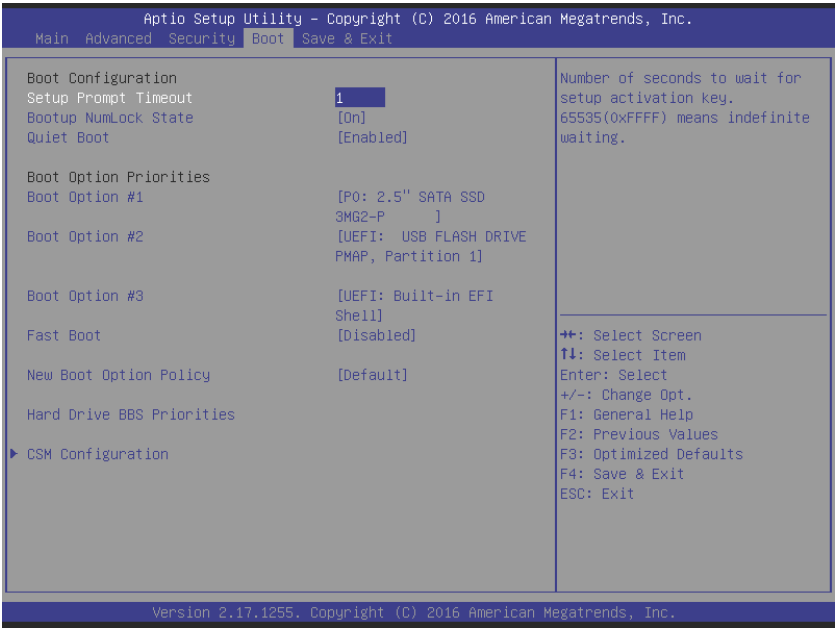
Administrator Password

Sets Administrator Password.

User Password

Sets User Password.

A.4 Boot



Setup Prompt Timeout

Number of seconds before setup activation key is launched, with 65535(0xFFFF) generating indefinite waiting.

Bootup NumLock State

Sets keypad Number Lock status following boot.

Quiet Boot

When Disabled, directs BIOS to display POST messages, and when Enabled, directs BIOS to display the OEM logo.

Boot Option Priorities

Specifies the priority of boot devices, all detected during POST and displayed. Select Boot Option # and select the desired device.

Fast Boot

Enables or disables boot initializing the minimum devices required to launch active boot option. Does not affect BBS boot options.

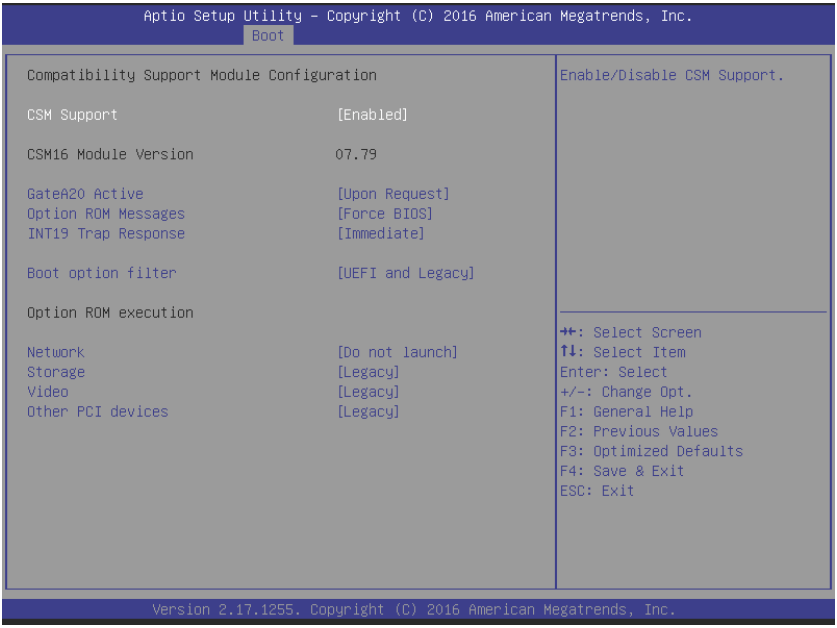
New Boot Option Policy

Controls the placement of newly detected UEFI boot options.

Hard Drive BBS Priorities

Sets the order of legacy devices in this group.

A.4.1 CSM Configuration



CSM Support

Enables/disables CSM Support.

GateA20 Active

UPON REQUEST disables GA20 using BIOS services, and ALWAYS prevents GA20 from being disabled, indicated when any RT code exceeding 1MB is executed.

Option ROM Messages

Sets display mode for Option ROM.

INT19 Trap Response

BIOS reaction on INT19 trapping by Option ROM, with IMMEDIATE executing trap immediately, and POSTPONED executing trap during legacy boot.

Boot option filter

Controls Legacy/UEFI ROM priority.

Network

Controls execution of UEFI and Legacy PXE OpROM.

Storage

Controls execution of UEFI and Legacy Storage OpROM.

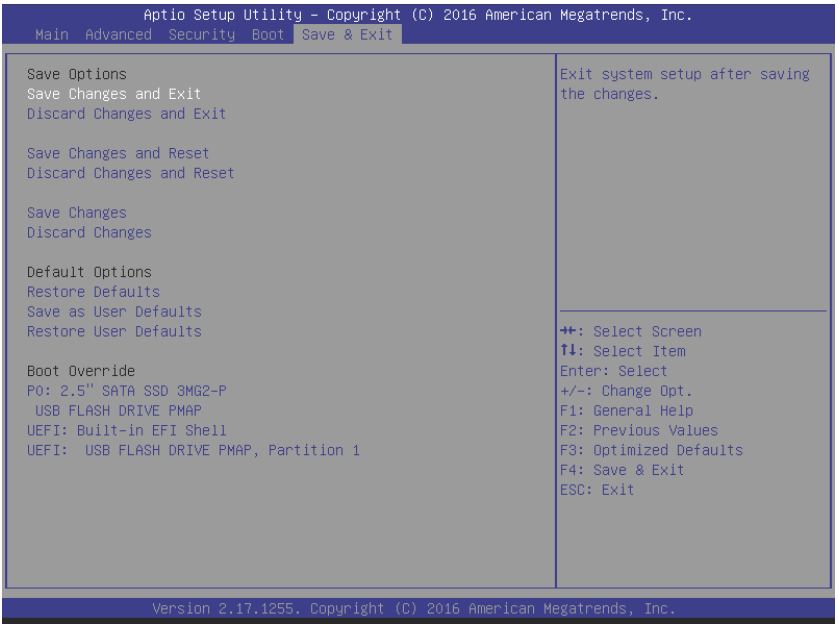
Video

Controls execution of UEFI and Legacy Video OpROM.

Other PCI devices

Determines OpROM execution policy for devices other than Network, Storage, and Video.

A.5 Save & Exit



Save Changes and Exit

Exits system setup after saving changes.

Discard Changes and Exit

Exits system setup without saving any changes.

Save Changes and Reset

Resets the system after saving the changes.

Discard Changes and Reset

Resets the system without saving any changes.

Save Changes

Saves changes made to that point to any Setup options.

Discard Changes

Discards changes made to that point to any Setup options.

Restore Defaults

Restores/loads default values for all Setup options.

Save as User Defaults

Saves changes made to that point as User defaults.

Restore User Defaults

Restores all Setup options to User defaults.

Important Safety Instructions

For user safety, please read and follow all instructions, Warnings, Cautions, and Notes marked in this manual and on the associated device before handling/operating the device, to avoid injury or damage.

S'il vous plaît prêter attention stricte à tous les avertissements et mises en garde figurant sur l'appareil , pour éviter des blessures ou des dommages.

- Read these safety instructions carefully
- Keep the User's Manual for future reference
- Read the Specifications section of this manual for detailed information on the recommended operating environment
- The device can be operated at an ambient temperature of 55ºC (with DC supply) and 50ºC (with adapter supply);
- When installing/mounting or uninstalling/removing device; or when removal of a chassis cover is required for user servicing (See "Getting Started" on page 23.):
  - Turn off power and unplug any power cords/cables
  - Reinstall all chassis covers before restoring power
- To avoid electrical shock and/or damage to device:
  - Keep device away from water or liquid sources
  - Keep device away from high heat or humidity
  - Keep device properly ventilated (do not block or cover ventilation openings)
  - Always use recommended voltage and power source settings
  - Always install and operate device near an easily accessible electrical outlet
  - Secure the power cord (do not place any object on/over the power cord)
  - Only install/attach and operate device on stable surfaces and/or recommended mountings
- If the device will not be used for long periods of time, turn off and unplug from its power source

- Never attempt to repair the device, which should only be serviced by qualified technical personnel using suitable tools
- A Lithium-type battery may be provided for uninterrupted backup or emergency power.

Risk of explosion if battery is replaced with one of an incorrect type; please dispose of used batteries appropriately.
Risque d'explosion si la pile est remplacée par une autre de type incorrect. Veuillez jeter les piles usagées de façon appropriée.

- The device must be serviced by authorized technicians when:
  - The power cord or plug is damaged
  - Liquid has entered the device interior
  - The device has been exposed to high humidity and/or moisture
  - The device is not functioning or does not function according to the User's Manual
  - The device has been dropped and/or damaged and/or shows obvious signs of breakage
- Disconnect the power supply cord before loosening the thumbscrews and always fasten the thumbscrews with a screwdriver before starting the system up
- It is recommended that the device be installed only in a server room or computer room where access is:
  - Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefor, and any precautions required
  - Only afforded by the use of a tool or lock and key, or other means of security, and controlled by the authority responsible for the location
- If PoE (Power over Ethernet) is enabled for the device, the system can ONLY be deployed indoors. Unless otherwise noted, the PoE system is NOT designed to withstand the rigors of outdoor use.

	**BURN HAZARD** Touching this surface could result in bodily injury. To reduce risk, allow the surface to cool before touching. ***RISQUE DE BRÛLURES*** *Ne touchez pas cette surface, cela pourrait entraîner des blessures.* *Pour éviter tout danger, laissez la surface refroidir avant de la toucher.*

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Getting Service

Ask an Expert: http://askanexpert.adlinktech.com

ADLINK Technology, Inc.
Address: 9F, No.166 Jian Yi Road, Zhonghe District
New Taipei City 235, Taiwan
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Fax: +886-2-8226-5717
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
Address: 5215 Hellyer Avenue, #110
San Jose, CA 95138, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
Address: 上海市浦东新区张江高科技园区芳春路 300 号 (201203)
300 Fang Chun Rd., Zhangjiang Hi-Tech Park
Pudong New Area, Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology Beijing
Address: 北京市海淀区上地东路 1 号盈创动力大厦 E 座 801 室(100085)
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