JAVI-S1x30 Series Panel PC
(10.4"/12.1"/15"/17"/19")

JAVI-S1x31 Series Panel PC
(15"/17"/19")

Highly Flexible and Rugged Fan-less True-flat Touch Panel PC
with Wide Temperature Support
Powered by Intel® Atom™ Bay Trail Quad-core Processor

User's Manual

Version 1.0

Table of Contents

How to Use This Manual

How to Use This Manual

The manual describes how to configure your FUDA2-S1x11 Series Panel PC system to meet various operating requirements. It is divided into four chapters, with each chapter addressing a basic concept and operation of Fan-less Panel PC System.

Chapter 1: System Overview. Present what you have in the box and give you an overview of the product specifications and basic architecture for Panel PC system.

Chapter 2: System Installation. Show the definitions and locations of all the interfaces and describe a proper installation guide so that you can easily configure your system.

Chapter 3: Driver Installation and Touch Usage Guide. Describe the operation guide for included driver and software.

Chapter 4: BIOS Setup Information. Specify the meaning of each setup parameters, how to get advanced BIOS performance and update new BIOS. In addition, POST checkpoint list will give users some guidelines of trouble-shooting.

Chapter 5: Important Instructions. Indicate some instructions which must be carefully followed when the Panel PC system is used.

Chapter 6: Frequent Asked Questions. Provide the answers for the most frequently asked questions.

The content of this manual is subject to change without prior notice. These changes will be incorporated in new editions of the document. The vendor may make supplement or change in the products described in this document at any time.

Revision History

Revision	Date	Details of Change(s)
V1.0	2017/4/24	Initial Release

Chapter 1
System Overview

1.1 Introduction

Focused on industrial application, the JAVI series is a fan-less and robust Panel PC with extraordinary I/O flexibility. To meet various needs and to make it perfectly fit for various applications, the JAVI series is available in 10.4", 12.1", 15", 17 and 19-inch. All five versions are available with 5-wire resistive touch and on project base with projective capacitive multi-touch. Powered by Intel® Atom™ Bay Trail-I SoC quad-core processor E3845 (10W Max TDP, 2M Cache, 1.91 GHz) integrating Intel® Gen 7 3D graphics engine, the JAVI series provides wide operating temperature support, high I/O connectivity and achieves up to 3x the peak performance and 5x the power efficiency of the previous generation.

The fan-less design of the Panel PC ensures silent operation, improved reliability and reduced maintenance costs. The JAVI products are designed with a robust aluminum front bezel and a metal housing and are IP65 rated on the front panel and IP20 on the rear side. In addition to the higher computing and graphic performance, the JAVI series features all required interfaces for industrial application: 1 x HDMI port, 1 x VGA port, 2 x Gigabit Ethernet, 1 x USB 3.0, 3 x USB 2.0, 2 x RS-232/422/485 port, 2 x RS-232 ports, one 2.5" SATA HDD or SSD, one half-size mSATA device. Two SMA antenna holes provide optional WiFi and 3G/GPS or 4G LTE function via Mini-PCIe add-on card with on-module SIM card holder.

Modularization and flexibility were the major design goals for Portwell's JAVI Panel PC series, which enables the Panel PC unit to be separated into an independent "embedded system" and a "touch panel display". As a result, users can choose different panel sizes ranging from 10.4″ to 19″. They pair up with the "embedded system" by a hidden cabling. The JAVI series also includes a friendly, tool-less design for quick and easy hard drive installation or replacement. The flexible I/O extensions are another key feature of the new Panel PC's. Each JAVI of 15", 17" and 19" can be extended by one out of six available expansion boards. The expansions offer isolated RS-232, CAN bus, EtherCAT or Profinet ports as well as Line-out and MIC in combination with a SIM card holder.

Additionally, the Portwell JAVI series supports a 12~24V wide range DC input for industrial operating environments and allow panel mounting or standard 100mm x 100mm VESA mounting. It supports many mainstream operating systems, such as Microsoft® Windows® 10, Windows® 8, Windows® 7 and Linux™.

1.2 Check List

The JAVI-S1x30, JAVI-S1x31 Series Panel PC package covers the following items:

Essential

✓ One JAVI-S1x30, JAVI-S1x31 Panel PC
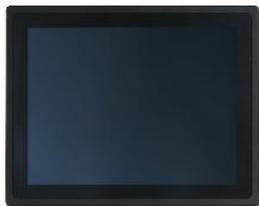
Panel Size	Model Name
10.4"	JAVI-S1030
12.1"	JAVI-S1230
15"	JAVI-S1530
17"	JAVI-S1730
19"	JAVI-S1930

✓ Panel Mount Kits

Panel Size	Kits (pcs)
10.4"	8 pieces
12.1"	10 pieces
15"	10 pieces
17"	16 pieces
19"	18 pieces

✓ Screws for HDD installation

M3X4L Screw 4 pieces

✓ Driver CD

✓ 3-pin Terminal Block Connector (Female)

Optional

✓ 60W Power Adapter with Power Cord (EU/US type) and Switch Cable

Power Cord (US type)   Power Cord (EU type)

60W Power Adapter

Power Switch Cable (from DC Jack to 3-pin TBC)

✓ I/O Extension Kit for JAVI-S15/17/1931
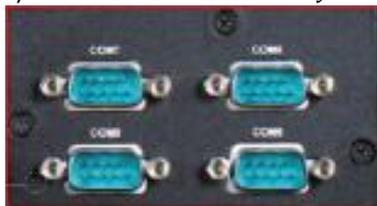
(Option 1) 4IC
1 x 2KV Isolation RS-232/422/485,
3 x 2KV Isolation RS-232

(Option 2) 2IC4U
1 x 2KV Isolation RS-232/422/485,
1 x 2KV Isolation RS-232,
4 x USB 2.0

(Option 3) A
1 x Line-out, 1 x MIC,
1 x Full-size mini PCIe socket with SIM holder

(Option 4) ACAN
1 x Line-out, 1 x MIC,
2 x CAN 2.0B

(Option 5) AIE
1 x Line-out, 1 x MIC,
2 x EhterCAT

(Option 6) API
1 x Line-out, 1 x MIC,
2 x Profitnet

If any of these items is damaged or missing, please contact your vendor and keep all packing materials for future replacement and maintenance.

1.3 Product Specification

JAVI-S1x30 Series

Model Name	JAVI-S1030	JAVI-S1230	JAVI-S1530	JAVI-S1730	JAVI-S1930
Display					
LCD Size	10.4″	12.1"	15″	17"	19"
Resolution	XGA 1024 x 768	XGA 1024 x 768	XGA 1024 x 768	SXGA 1280 x 1024	SXGA 1280 x 1024
Brightness	450 cd/m^2	500 cd/m^2	450 cd/m^2	350 cd/m^2	350 cd/m^2
Contrast Ratio	3000:1	700:1	700:1	1000:1	1000:1
Backlight	LED type	LED type	LED type	LED type	LED type
Touch Window	True-flat 5-Wire Resistive Single Touch (P-CAP Touch by project)				
System					
SOC	Intel® Atom™ Quad-Core E3845 (1.91 GHz)				
Memory	DDR3L SO-DIMM 1333/1600 MHz max up to 8 GB				
BIOS	AMI				
Graphics	Intel® Gen7 Graphics				
LVDS	Single/Dual Channel 24-bit				
LAN Chipset	Dual Intel® I210IT Gigabit Ethernet (Support Jumbo Frame)				
Audio	N/A				
Watchdog Timer	Programmable 1~255 secs				
Storage Device	1 x 2.5" SATA HDD / SSD, 1 x Half-size mSATA device				
OS	Windows 7 / Windows 8.1 / Windows 10 / Linux™				
I/O Interface					
Series Port	2 x RS-232/422/485, 2 x RS-232				
Display	1 x VGA, 1 x HDMI				
USB	1 x USB 3.0, 3 x USB 2.0				
Ethernet	2 x Gigabit Ethernet				
Others	1 x Programmable 8-bit digital I/O 2 x SMA Antenna hole for WiFi, 3G/GPS, 4G Solution				
Expansion	1 x Full-size Mini PCIe socket				
Mechanical					
Mounting (mm)	VESA Mount 100 x 100 ; Panel Mount				
Weight (Kg)(N)	3.1 Kg	4.1 Kg	4.6 Kg	7.4 Kg	8.5 Kg
Weight (Kg)(G)	4.9 Kg	5.9 Kg	6.7 Kg	8.9 Kg	9.7 Kg
Dimension	276 x 221 x 92.0 mm	328 x 261 x 95.0 mm	368 x 292 x 91.3 mm	417 x 353 x 99.5 mm	451 x 374 x 97.8 mm
Power					
Power Supply	DC 12 ~ 24V input with 3-pin Terminal Block Connector				
Consumption (Max)	33W (12V); 35W (24V)	33W (12V); 35W (24V)	35W (12V); 35W (24V)	35W (12V); 36W (24V)	36W (12V); 34W (24V)
Consumption (Min)	16W (12V); 18W (24V)	16W (12V); 18W (24V)	17W (12V); 17W (24V)	17W (12V); 18W (24V)	17W (12V); 19W (24V)
Power Adaptor	12V, 5A/60W(Optional)				
Environmental					
OP /Storage Temp	-25~70 ℃ / -40~85℃ (20~90% non-condensing)				
Vibration	1.0G (CF/SSD/SD) and 0.5G (HDD) , Power on & 2.16G, Packaged; 5~500Hz				
Shock	15G peak acceleration, 11 ms (Power on condition)				
Drop	Package with Carton from 96.5 cm (1-Corner, 3-Axis, 6-Face)				
Front Panel Protection	IP65 (Front) / IP20 (Rear) (IEC 60529 Edition 2.1 Standard)				
Certification	CE/FCC Class A				

JAVI-S1x31 Series

Model Name	JAVI-S1530	JAVI-S1730	JAVI-S1930
Display			
LCD Size	15"	17"	19"
Resolution	XGA 1024 x 768	SXGA 1280 x 1024	SXGA 1280 x 1024
Brightness	450 cd/m^2	350 cd/m^2	350 cd/m^2
Contrast Ratio	700:1	1000:1	1000:1
Backlight	LED type	LED type	LED type
Touch Window	True-flat 5-Wire Resistive Single Touch (P-CAP Touch by project)		
System			
SOC	Intel$^®$ Atom™ Quad-Core E3845 (1.91 GHz)		
Memory	DDR3L SO-DIMM 1333/1600 MHz max up to 8 GB		
BIOS	AMI		
Graphics	Intel® Gen7 Graphics		
LVDS	Single/Dual Channel 24-bit		
LAN Chipset	Dual Intel$^®$ I210IT Gigabit Ethernet (Support Jumbo Frame)		
Audio	N/A		
Watchdog Timer	Programmable 1~255 secs		
Storage Device	1 x 2.5" SATA HDD / SSD, 1 x Half-size mSATA device		
OS	Windows 7 / Windows 8.1 / Windows 10 / Linux™		
I/O Interface			
Series Port	2 x RS-232/422/485, 2 x RS-232		
Display	1 x VGA, 1 x HDMI		
USB	1 x USB 3.0, 3 x USB 2.0		
Ethernet	2 x Gigabit Ethernet		
Others	1 x Programmable 8-bit digital I/O 3 x SMA Antenna hole for WiFi, 3G/GPS, 4G Solution		
Expansion	1 x Full-size Mini PCIe socket (Option 1) 1 x 2KV Isolation RS-232/422/485, 3 x 2KV Isolation RS-232 (Option 2) 1 x 2KV Isolation RS-232/422/485, 1 x 2KV Isolation RS-232, 4 x USB 2.0 (Option 3) 1 x Line-out, 1 x MIC, 1 x Full-size mini PCIe socket with SIM holder (Option 4) 1 x Line-out, 1 x MIC, 2 x CAN 2.0B (Option 5) 1 x Line-out, 1 x MIC, 2 x EhterCAT (Option 6) 1 x Line-out, 1 x MIC, 2 x Profitnet		
Mechanical			
Mounting (mm)	VESA Mount 100 x 100 ; Panel Mount		
Weight (Kg)(N)	5.3 Kg	8.1 Kg	9.2 Kg
Weight (Kg)(G)	10.4 Kg	11 Kg	11.7 Kg
Dimension	368 x 292 x 91.3 mm	417 x 353 x 99.5 mm	451 x 374 x 97.8 mm
Power			
Power Supply	DC 12 ~ 24V input with 3-pin Terminal Block Connector		
Consumption (Max)	45W (12V); 48W (24V)	53W (12V); 50W (24V)	49W (12V); 50W (24V)
Consumption (Min)	17W (12V); 19W (24V)	24W (12V); 24W (24V)	23W (12V); 24W (24V)
Power Adaptor	12V, 5A/60W(Optional)		
Environmental			
OP /Storage Temp	-25~70 ℃ / -40~85℃ (20~90% non-condensing)		
Vibration	1.0G (CF/SSD/SD) and 0.5G (HDD) , Power on & 2.16G, Packaged; 5~500Hz		
Shock	15G peak acceleration, 11 ms (Power on condition)		
Drop	Package with Carton from 96.5 cm (1-Corner, 3-Axis, 6-Face)		
Front Panel Protection	IP65 (Front) / IP20 (Rear) (IEC 60529 Edition 2.1 Standard)		
Certification	CE/FCC Class A		

1.4 Mechanical Dimension

JAVI-S1x30 Series

2D drawing of the JAVI-S1030 system
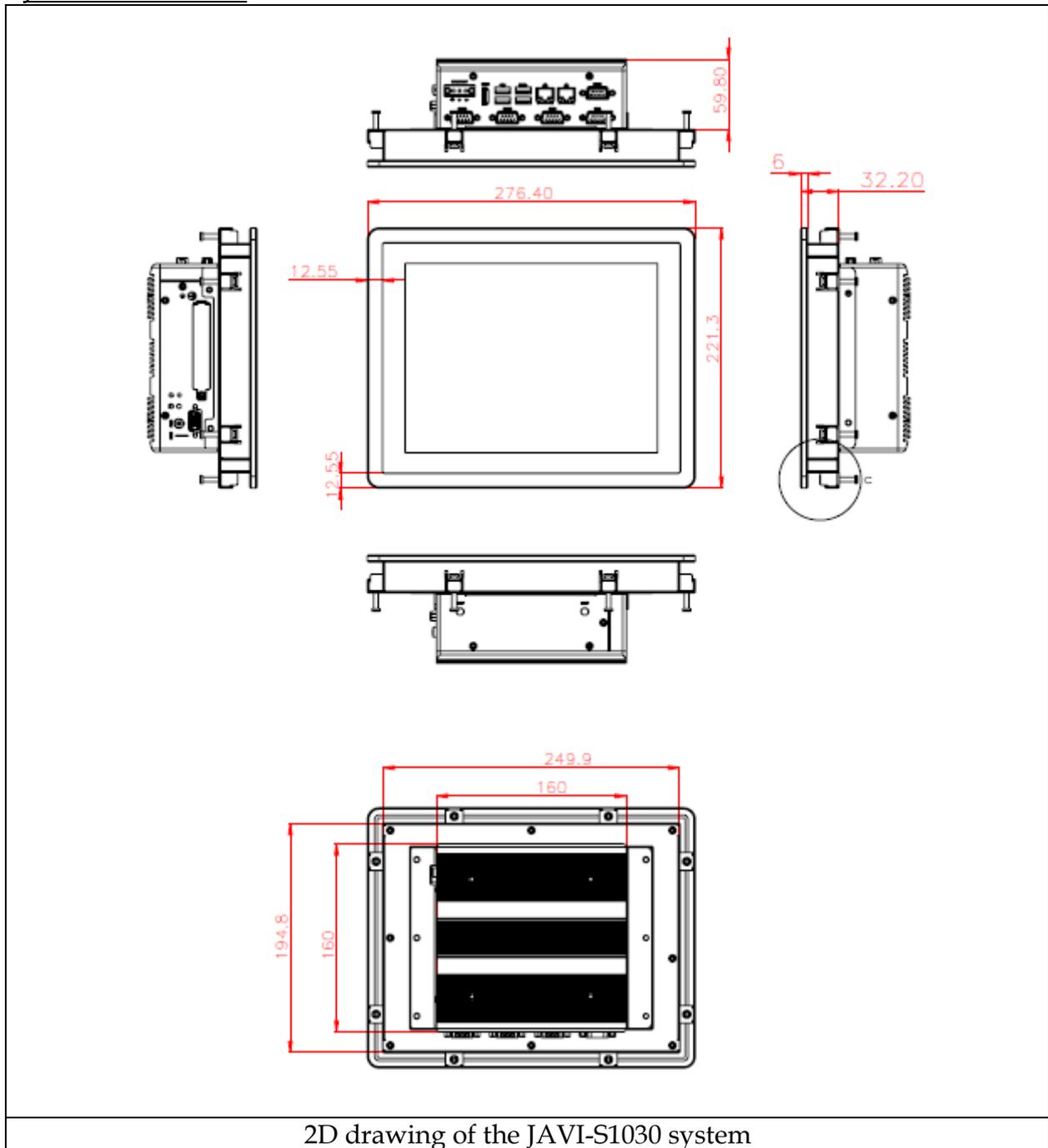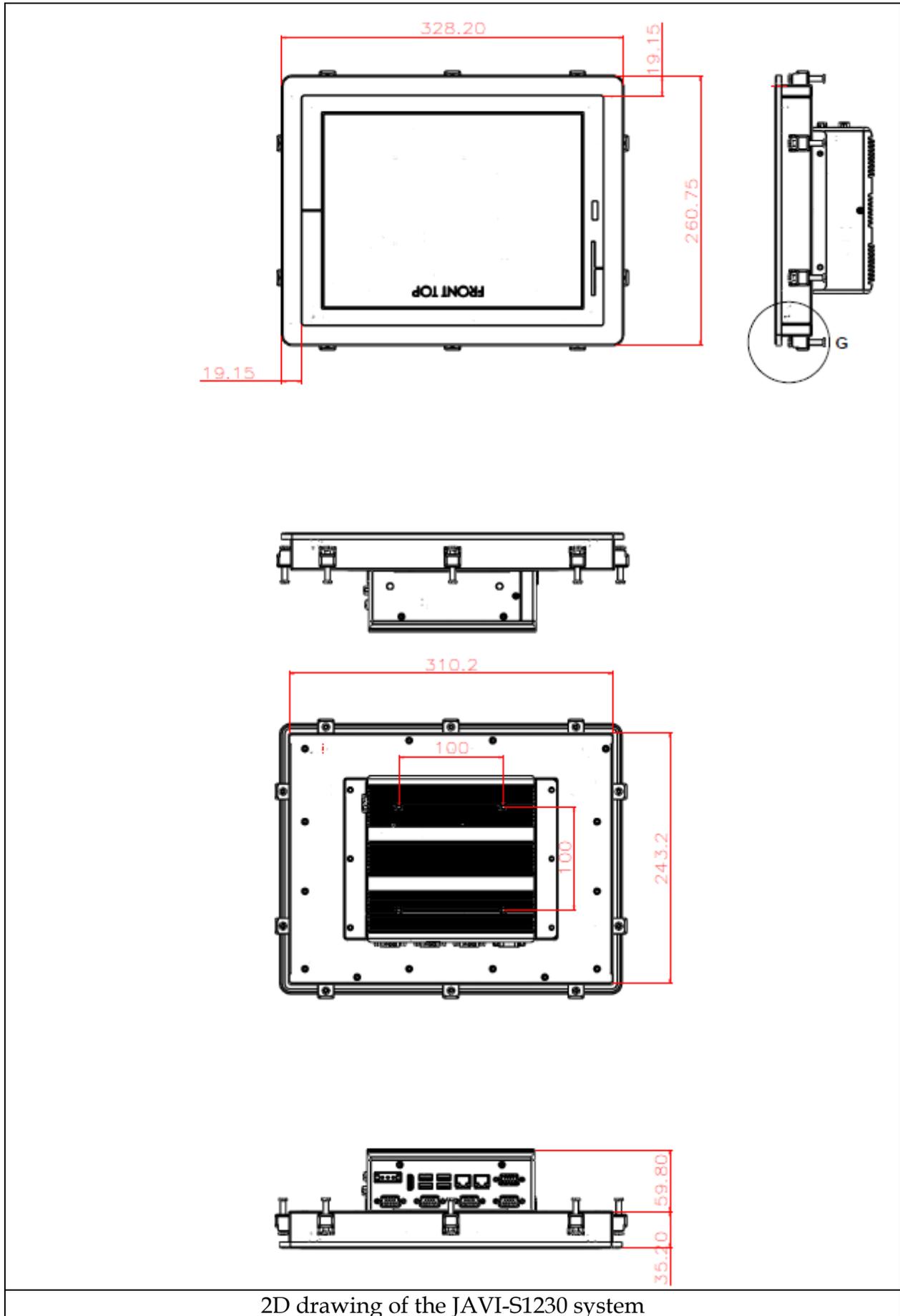
2D drawing of the JAVI-S1230 system
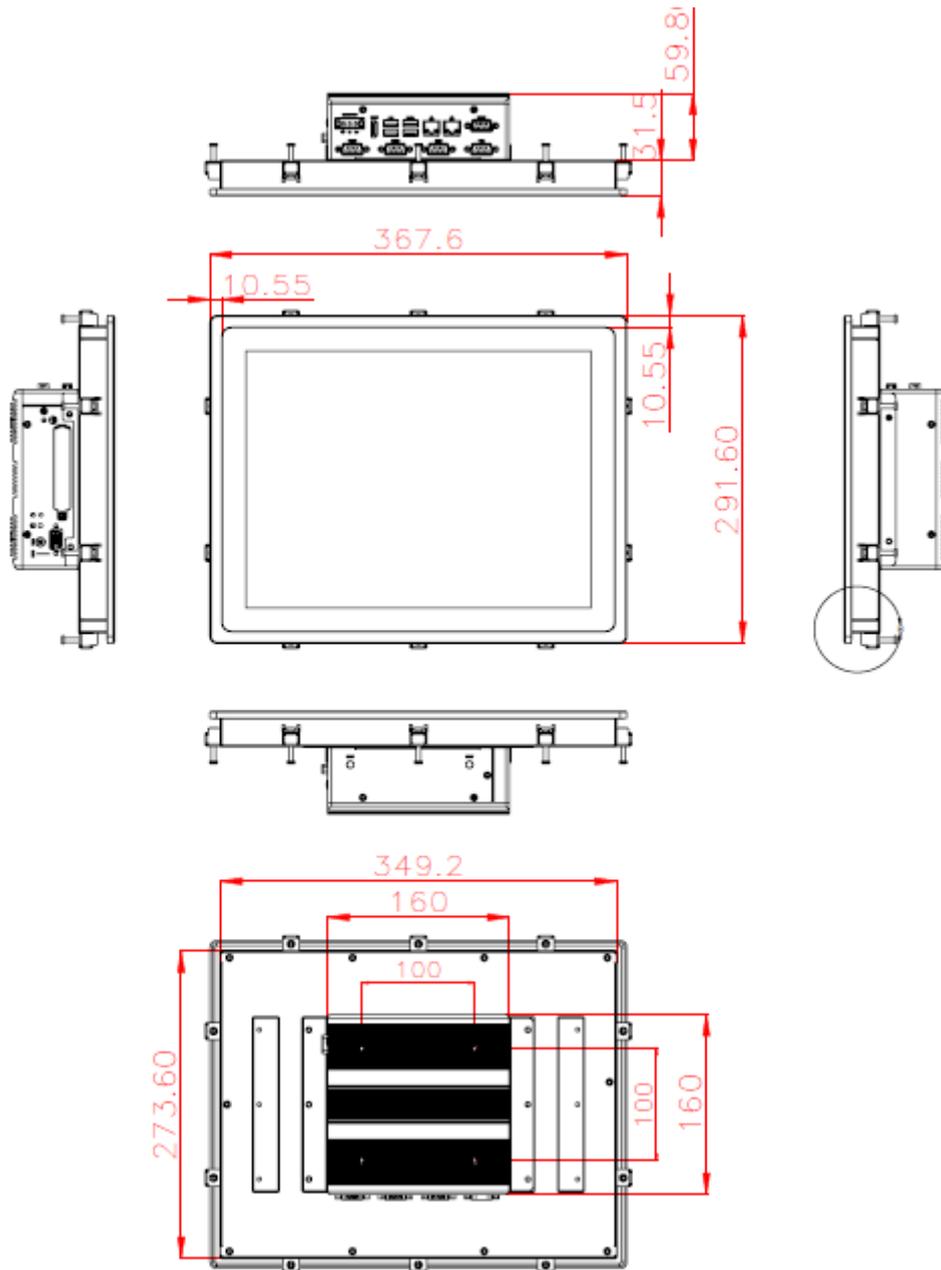
2D drawing of the JAVI-S1530 system
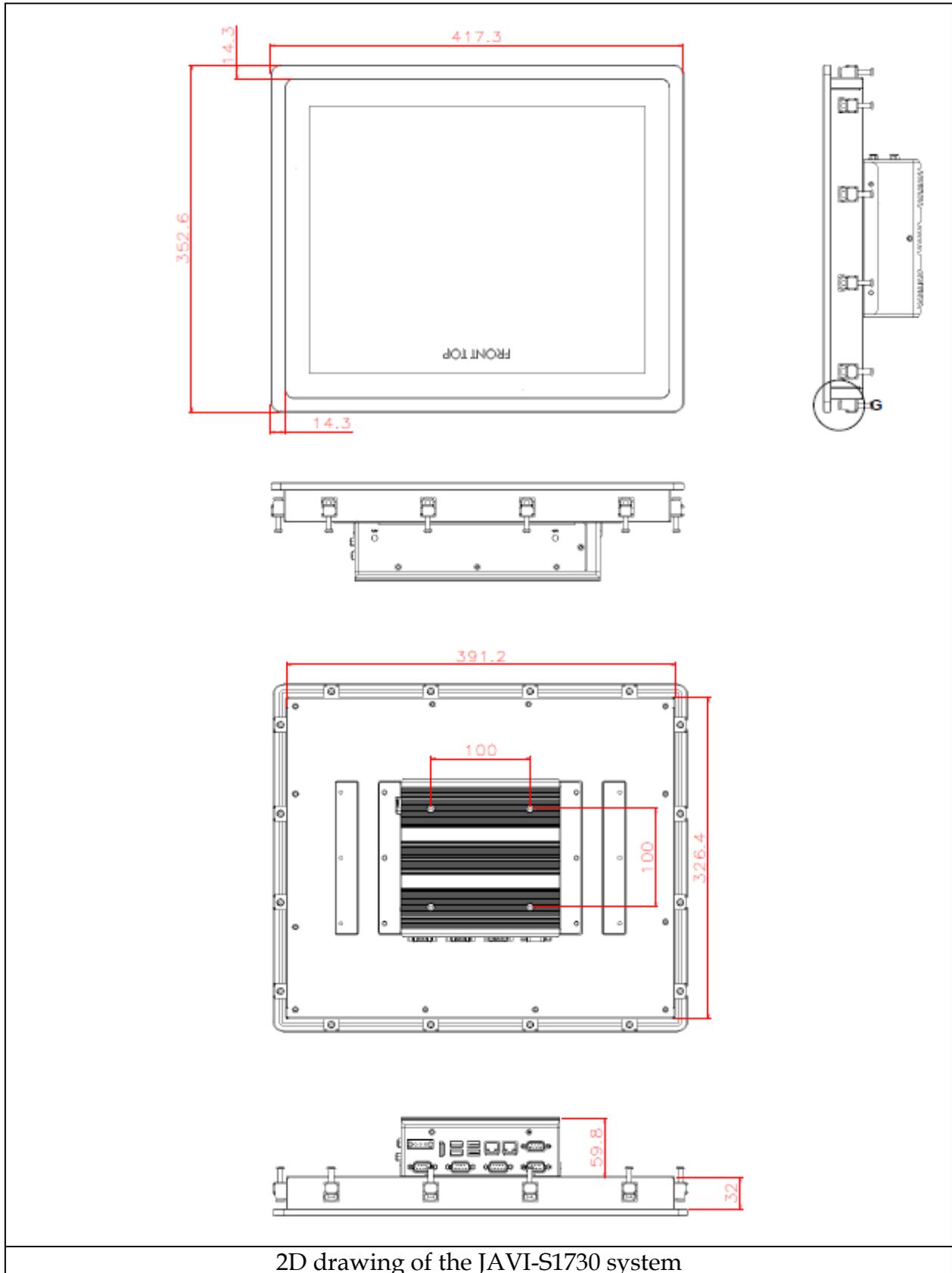
2D drawing of the JAVI-S1730 system
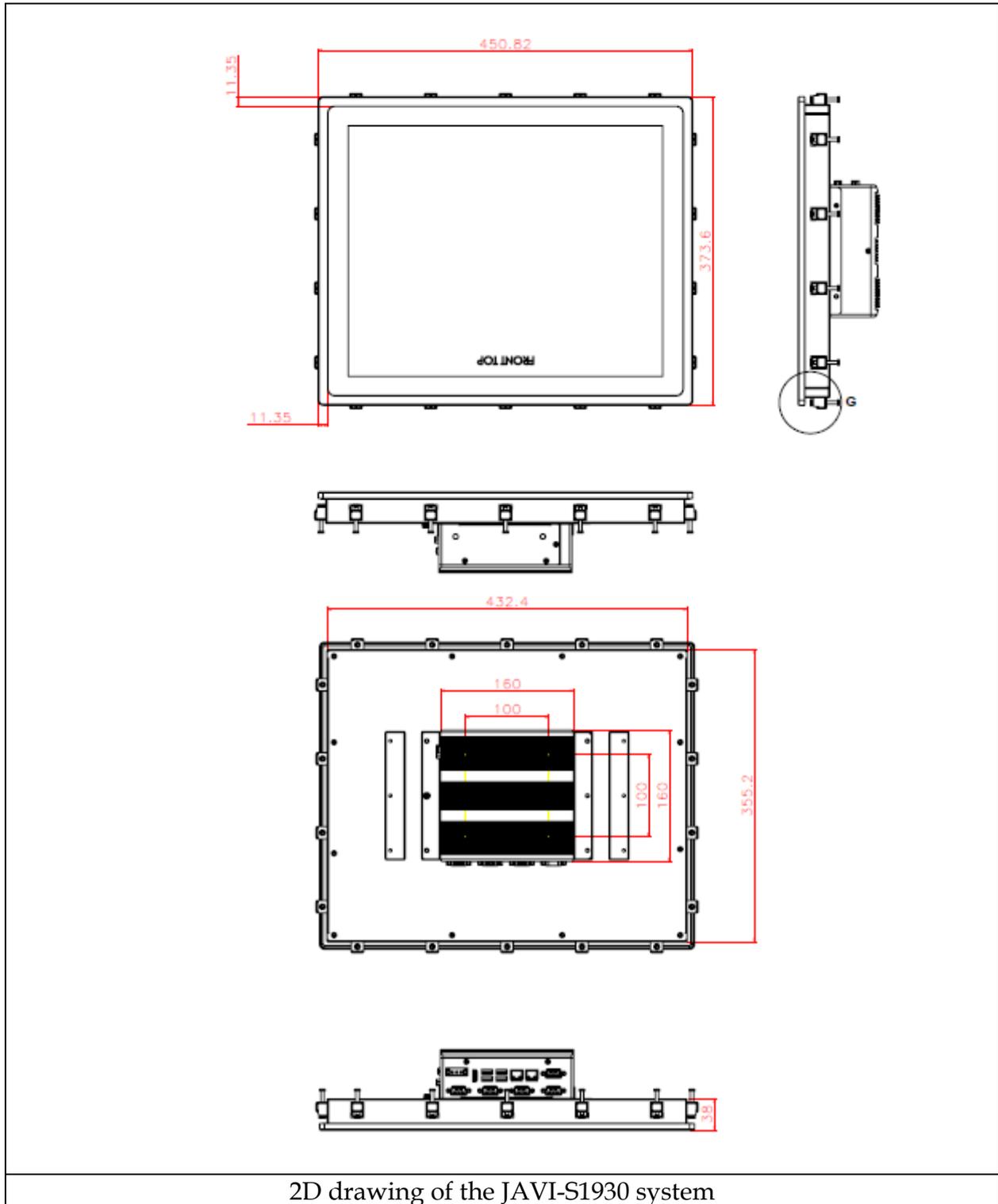
2D drawing of the JAVI-S1930 system

JAVI-S1x31 Series
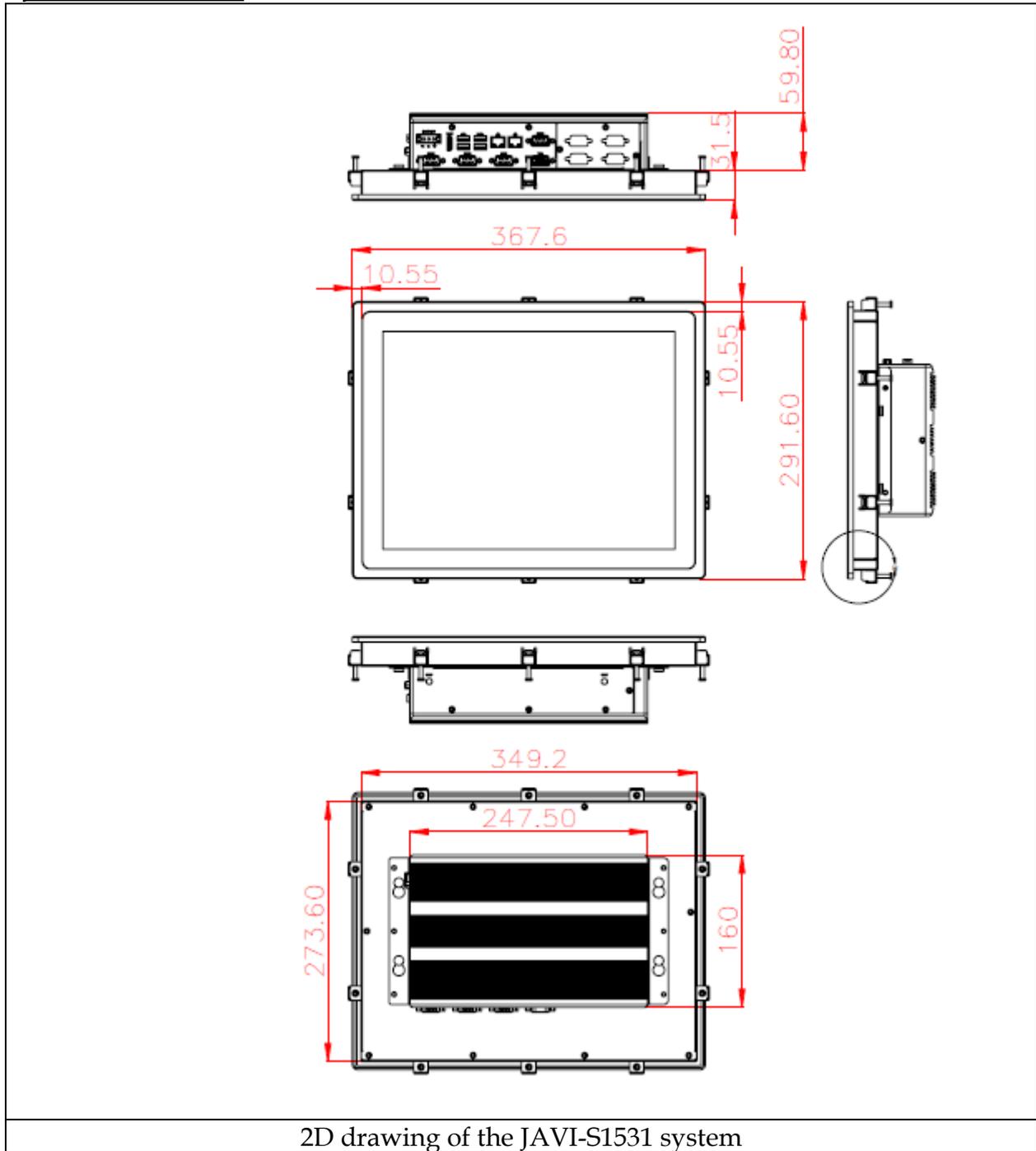
2D drawing of the JAVI-S1531 system
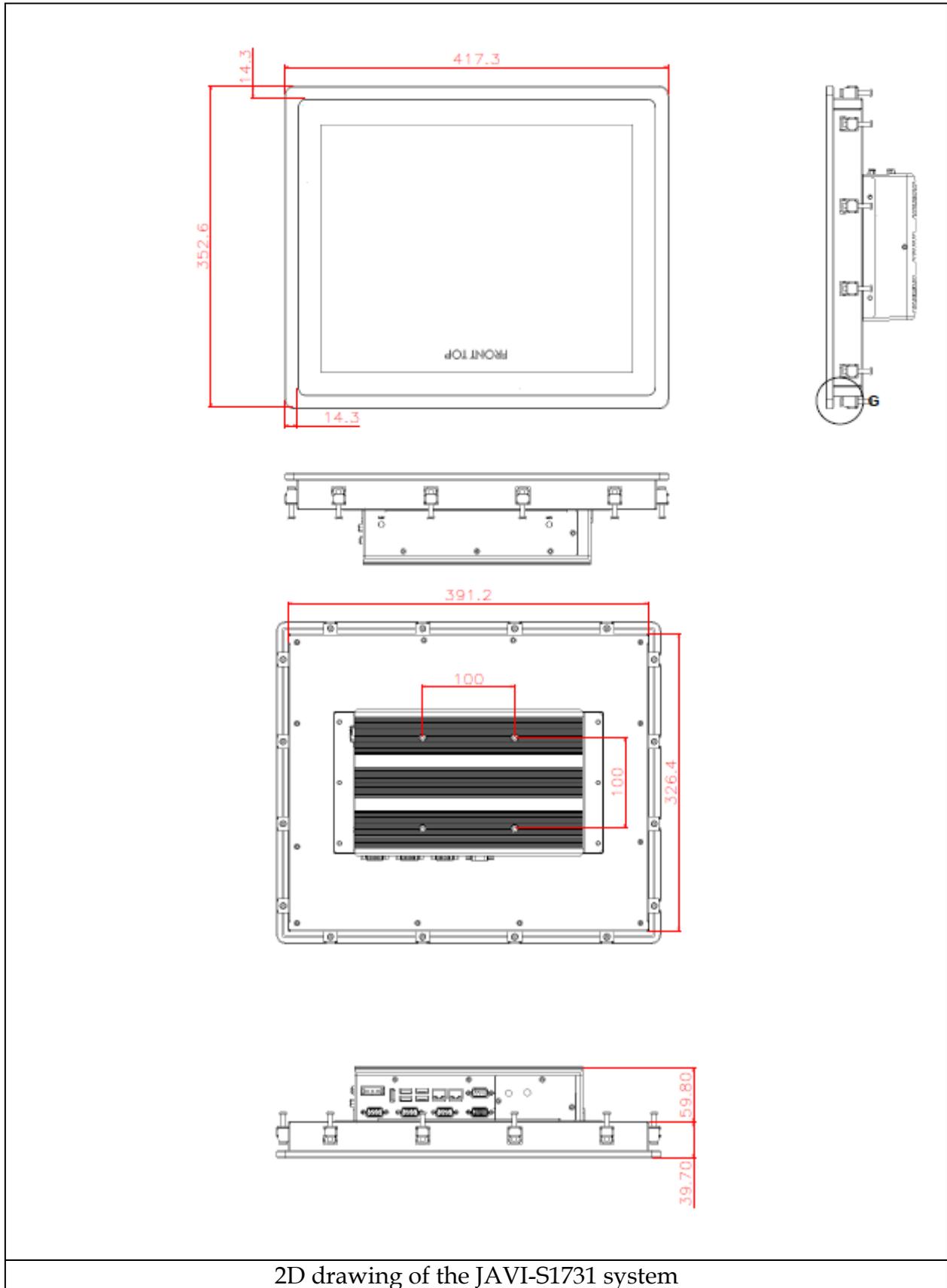
2D drawing of the JAVI-S1731 system
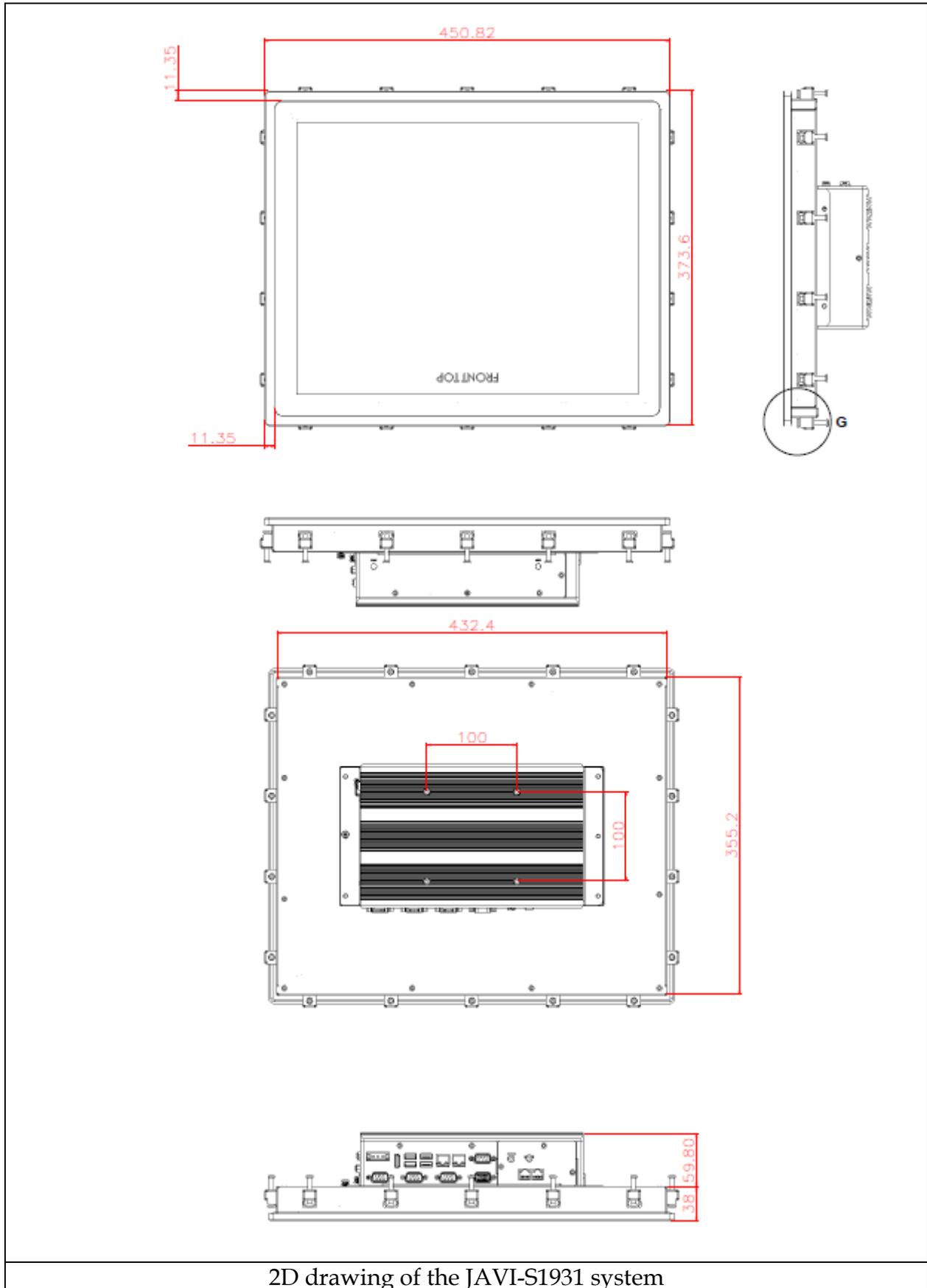
2D drawing of the JAVI-S1931 system

Chapter 2
System Installation

This chapter provides you with instructions to set up your JAVI-S1x30, JAVI-S1x31 Series Panel PC. Definitions and locations of all the interfaces are described so that you can easily configure your system.

2.1 HDD Installation

JAVI-S1x30, JAVI-S1x31 Series supports 1x 2.5" HDD/SSD. The unique design of the HDD tray allows easy installation and maintenance. (The height must be less than 10mm)

1. Remove the screws of HDD tray cover	2. Push the rod to release HDD tray
3. Install the HDD into tray with screws	4. Push HDD tray back, screw the cover and finish installation
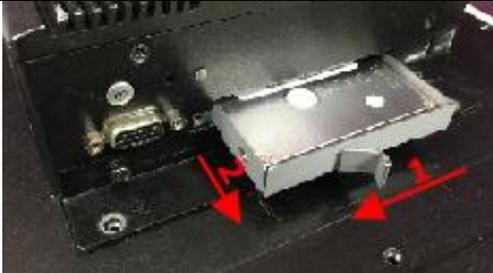
2.2 Getting Started

JAVI-S1x30, JAVI-S1x31 Series supports 12~24V DV input via 3-pin terminal block connector.

1. Male-type 3-pin terminal block connector located at rear I/O	2. Take the female type 3-pin terminal block connector in accessory kit

3. Fix female type 3-pin terminal block connector to the system by screw.	4. Follow pin definition and fix power cable to 3-pin thermal block connector by screw
5. Make sure the power supply (12~24V) is connected properly	6. Press the power button to turn on the system
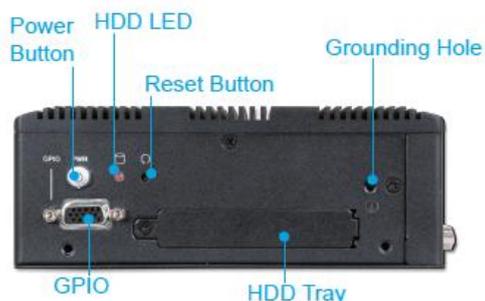
60W AC to DC power adapter and switch cable from adapter to 3-pin terminal block connector is an optional accessory.

1. Screw 3 pin terminal block cable to adaptor	2. Connect 3-pin terminal block connector to PPC through AC in with adaptor

2.3 I/O Interfaces

2.3.1 Front View

TFT-LCD Display with touch:

The Panel PC is built in a TFT-LCD display and designed with a true-flat 5-wire resistive touch screen. The touch screen allows contacts of pen or finger to move the mouse pointer but only functions normally after integrating necessary software.

*Note: Do not use a hard or a pointed object (like screw drivers or pliers) to operate the touch screen.

*Note: P-CAP touch screen could be by project.

Black Cover Lens of the touch screen

The Panel PC equips true-flat touch screen which comes with black cover lens.

Aluminum Front Bezel:

Rugged Aluminum front bezel meets IP65 protection.

2.3.2 Rear View
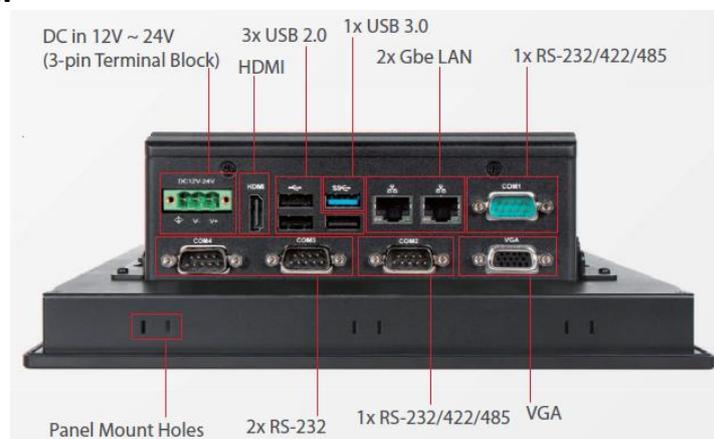
DC in 12-24V via 3-pin Terminal Block Connector:

Provide power connection of Panel PC to the main power source via DC power cable or AC/DC adapter.

HDMI:

Type A HDMI display output

USB3.0 & USB 2.0:

Support four USB (Universal Serial Bus) ports, one USB 3.0 and three USB 2.0.

Gigabit Ethernet:

Two Gigabit Ethernet (10/100/1000 Mbits/sec) LAN ports by using dual Intel® I210IT GbE Ethernet Controller (Support Jumbo Frame)

VGA:

An external monitor can be provided via VGA interface.

Panel Mount Hole:

The Panel PC can be mounted into a panel or a sub-frame for industrial cabinet via panel mount holes and kits.

COM port:

Two RS-232/422/485 ports and two RS-232 ports are supported.

- RS-232

PIN No.	Signal Description
1	DCD#
2	RXD#
3	TXD#
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

- RS-232/422/485

  *Note: RS-232/422/485 configuration is determined by BIOS setting. Check BIOS setting for details.

PIN No.	Signal Description
1	DCD#/DT-
2	RXD#/DT+
3	TXD#/422R+
4	DTR#/422R-
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

I/O Extension Kit for JAVI-S1x31:
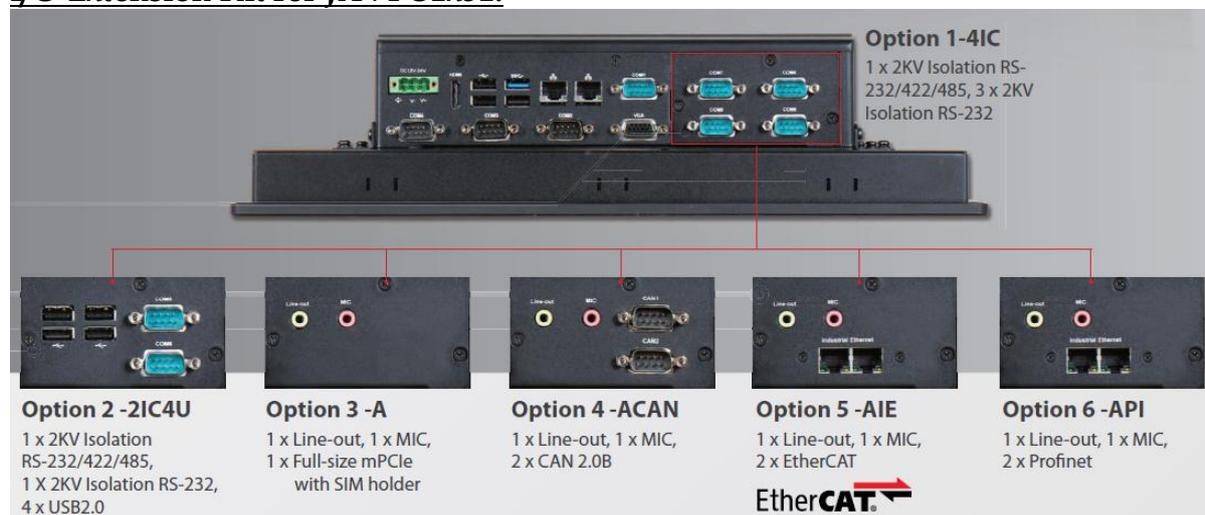
2.3.3 Top View

ANT1, ANT2 (& ANT3 for JAVI-S1x31) hole:
Antenna holes for WiFi or 3G/GPS module

2.3.4 Side View
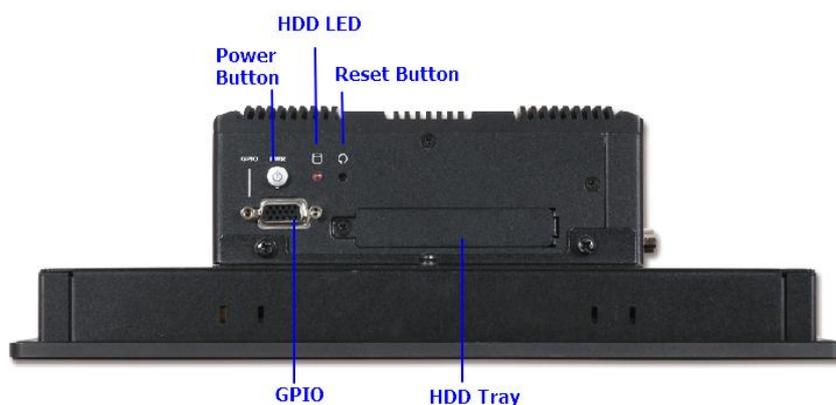
Power Button:
Press the power button to turn ON/OFF the system

HDD LED:
It demonstrates HDD working status of the system.

Reset Button:
Press the button to restart the system.

HDD Tray:
Remove the cover and install the 2.5″ HDD/SSD.
*Note: Refer to section 2.1 for installation guide.

GPIO:
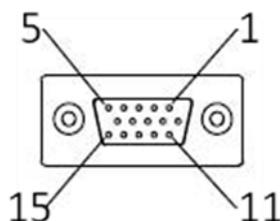
- GPIO PIN Definition

PIN No.	Signal Description	PIN No.	Signal Description
1	GPI#0	2	GPO#0
3	GPI#1	4	GPO#1
5	GPI#2	6	GPO#2
7	GPI#3	8	GPO#3
9	GND	10	5V
11	N/A	12	N/A
13	N/A	14	N/A
15	N/A		

- GPIO Output Voltage

JP3	Function
1-2 Short	5V ★ Default
2-3 Short	3.3V

2.4 Mounting Method

2.4.1 Panel Mount

The Panel PC can be mounted into a panel or a sub-frame for industrial cabinet via panel mount holes and kits. Check the installation guide and cut-out dimension below.

*Note: In order to ensure the Panel PC to be protected against dust and water, mount the system on a non-textured surface.

Installation Guide
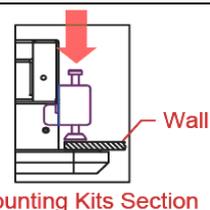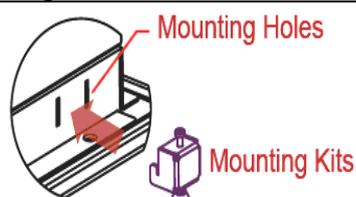
1. Hook Clip	
2. Screw the Clip tightly (Spec≦1.35 N)	3. Hook the mounting clamps with screws (included) from the back side
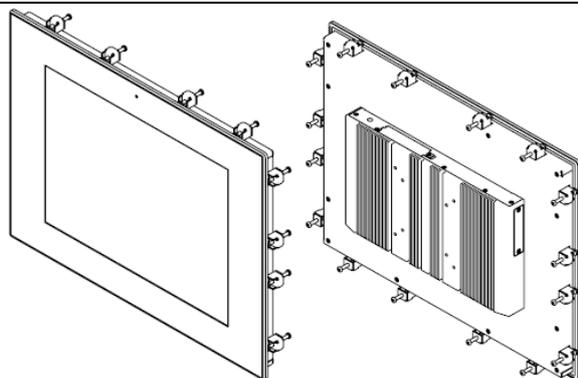
Panel Mount Holes

Panel Mount Kits

Cut-out Dimension

A (MAX. Wall Thickness)

D (Tolorence±1mm)

C (Tolorence±1mm)

B (MIN. Thickness Behind Wall)
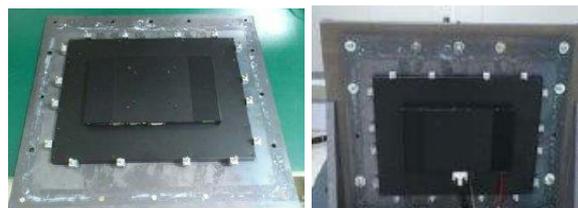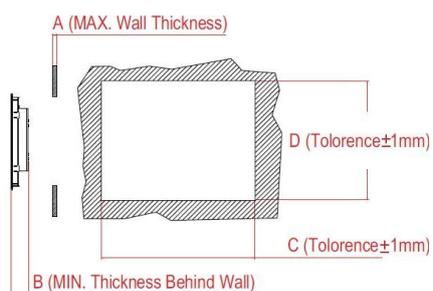
JAVI-S1x30/31	A(mm)	B(mm)	C(mm)	D(mm)	Kits
10.4"	<8.5	86	253	198	X 8
12.1"	<8.5	89	313	246	X 10
15"	<8.5	85.3	352	277	X 10
17"	<8.5	91.8	394	329	X16
19"	<8.5	89.9	435	358	X18

2.4.2 VESA$^®$ Mount

The Panel PC can install with VESA® 100x100 compliant adapter plate.

VESA
100 x 100

Chapter 3
Driver Installation and Touch Usage Guide

3.1 Driver Installation

All drivers are included in JAVI Series Driver CD-title in the accessory box.

3.2 Calibration of the Touch Screen

Calibration aligns the active touch-sensitive area of the touch screen with the image on the display. Calibration also determines the edges of the screen's image and locates the center of the touch screen. If the touch screen is not calibrated properly, the active area of the touch screen may not be aligned with the screen's image or may be unnecessarily small in size.

1. Make sure the touch driver utility is installed properly	2. Click [Start] to find the "eGalaxTocuh Configure Utility"
3. Click [About], you can see the information and version of the "Touch Screen Utility"	4. Click [General], the installed USB touch screen controller is shown.
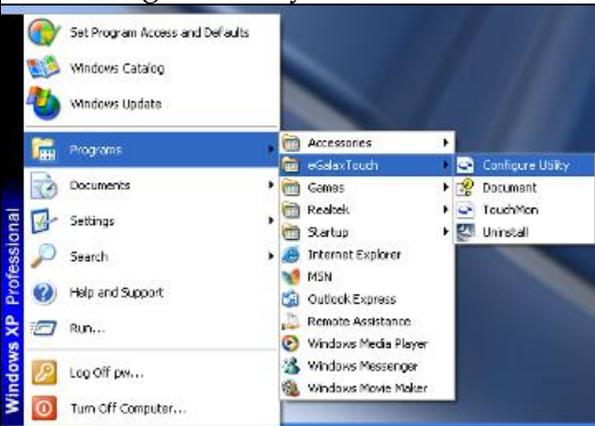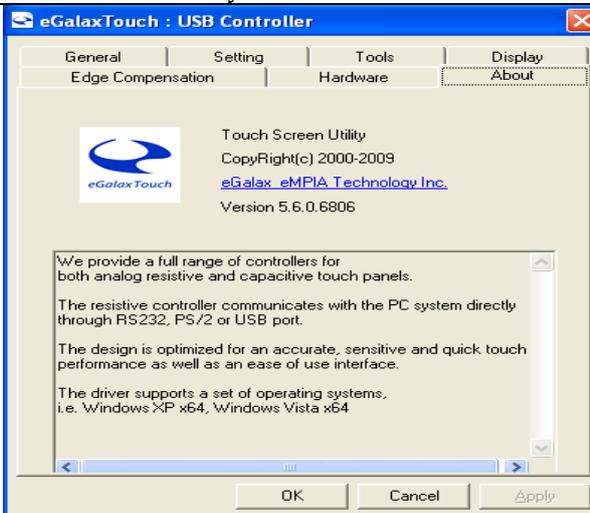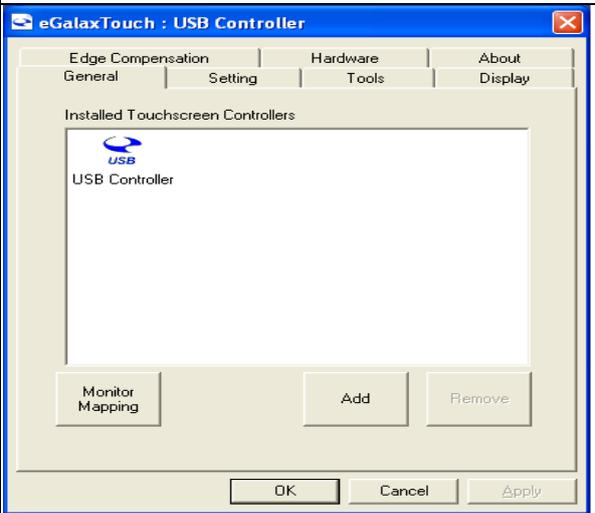
5. Click [Setting], you can choose the 9 points or 25 points linearization style.	6. Click [Tools] to align touch with the display and verify touch accuracy.
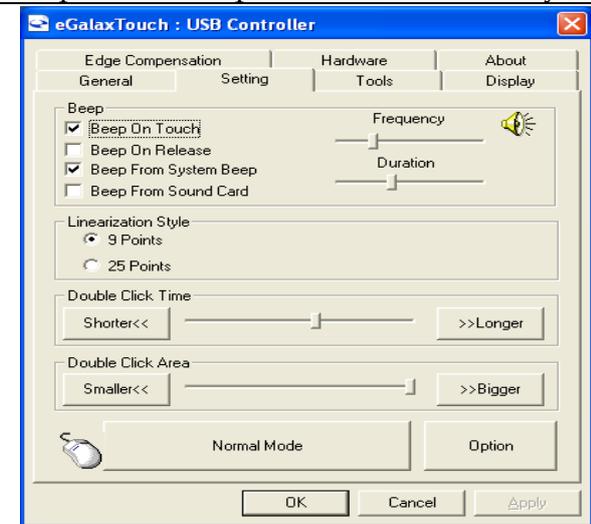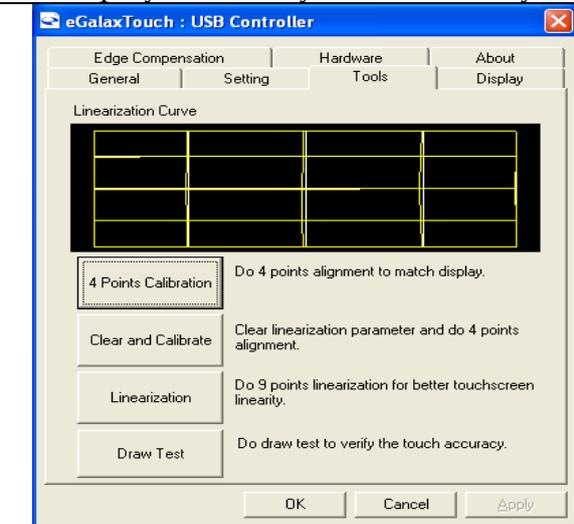
Click [4 Points Calibration] & [Linearization] to match display.
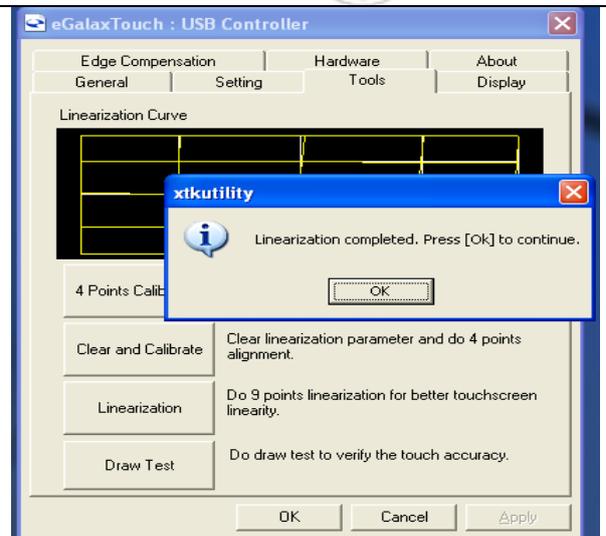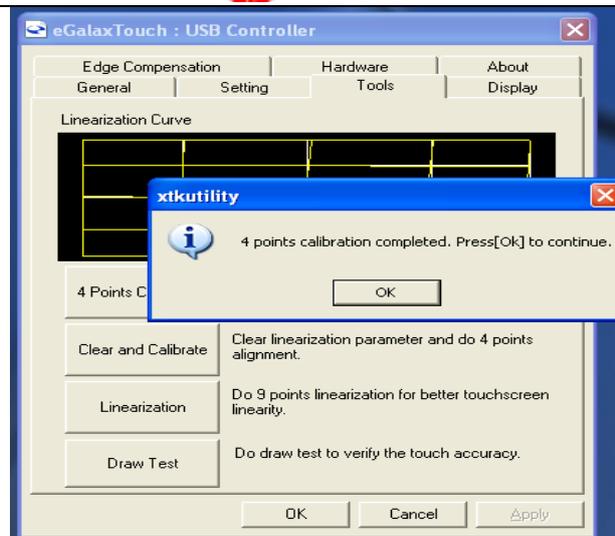
Click [Draw Test], draw by touch pen or finger to determine touch accuracy
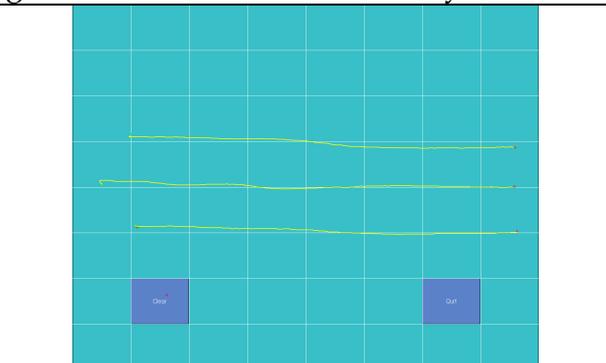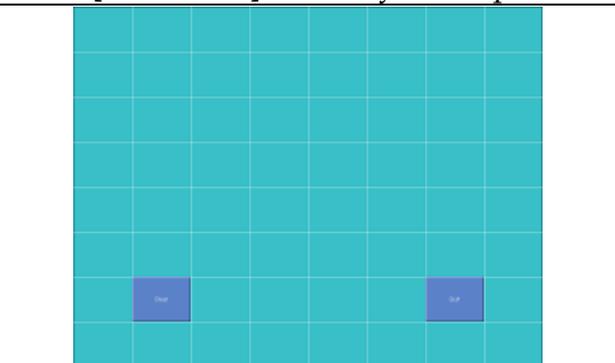
7. Click [Display], you can select the Operation Mode.	8. Click [Hardware], controller model and firmware version are shown.
9. Click [Hardware Setting], you can adjust sensitivity and delay time of the touch screen.	10. Click [Edge Compensation] to adjust the edge parameters.
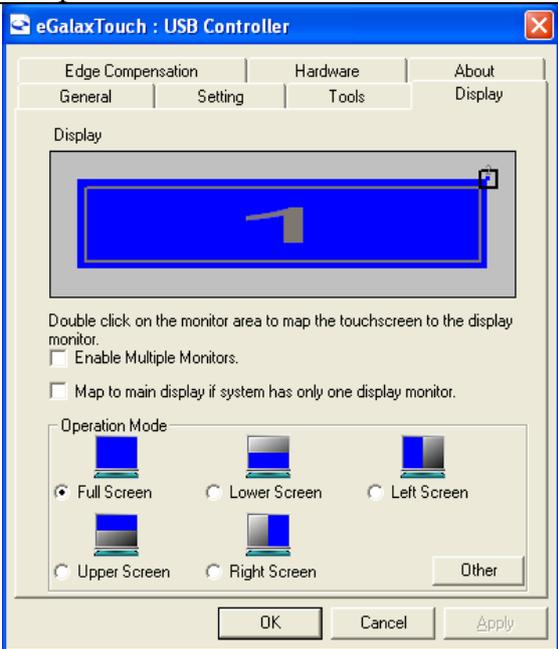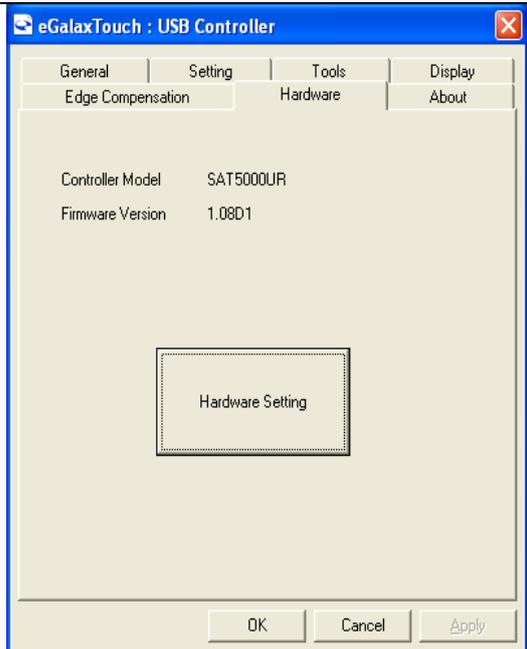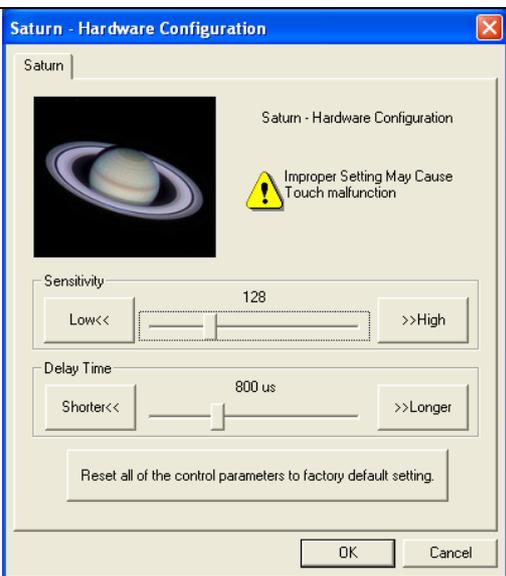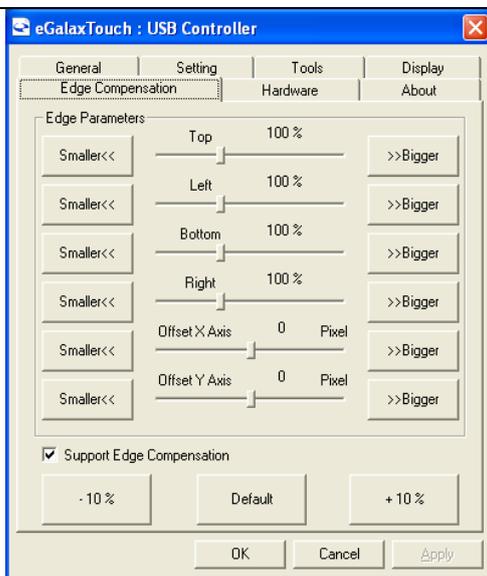
Chapter 4
BIOS Setup Information

The following section describes the BIOS setup program. The BIOS setup program can be used to view and change the BIOS settings. Only experienced users should change the default BIOS settings.

4.1 BIOS Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <ESC> or <DELETE> key will enter BIOS setup screen.

Press <ESC> or <Del> to enter SETUP
If the message disappears before responding and still wish to enter Setup, please restart the system by turning it OFF and On or pressing the RESET button. It can be also restarted by pressing <Ctrl>, <Alt>, and <Delete> keys on keyboard simultaneously.

Press <F1> to Run General Help or Resume
The BIOS setup program provides a General Help screen. The menu can be easily called up from any menu by pressing <F1>. The Help screen lists all the possible keys to use and the selections for the highlighted item. Press <Esc> to exit the Help screen.

```
┌──────────────── General Help ────────────────┐
│                                               │
│  ↑↓→←      : Move                             │
│  Enter     : Select                           │
│  +/-       : Value                            │
│  ESC       : Exit                             │
│  F1        : General Help                     │
│  F2        : Previous Values                  │
│  F3        : Optimized Defaults               │
│  F4        : Save & Exit Setup                │
│  <K>       : Scroll help area upwards         │
│  <M>       : Scroll help area downwards       │
│                                               │
│  ─────────────────────────────────────────   │
│                    Ok                         │
└───────────────────────────────────────────────┘
```
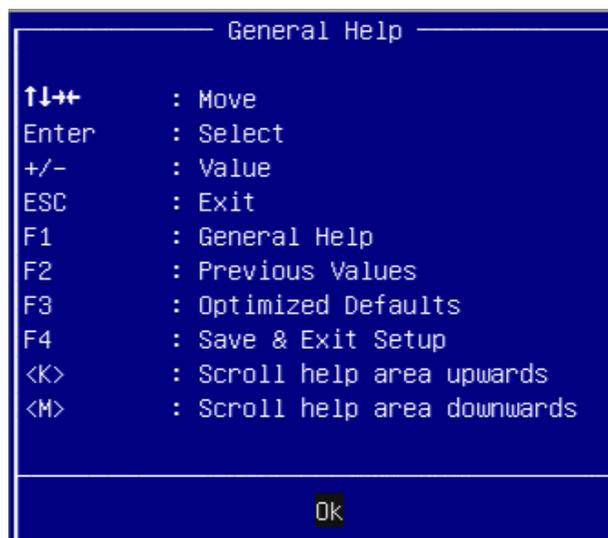
4.2　Main

Use this menu for basic system configurations, such as time, date etc.

```
                Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
   Main  Configuration  Security  Boot  Save & Exit

   UEFI Type                       64 BIT

   Project Name                    PAB-1001
   BIOS Version & Build Date       R1.00.E0 (08/31/2016 12:31:25)
   EC Version & Build Date         R04.E00 (08/22/2016)

   Processor information
   Brand String                    Intel(R) Atom(TM) CPU E3845 @ 1.91GHz

   Memory Information
   Total Memory                    4096 MB (DDR3L)

   TXE Information
   TXE FW Version                  01.01.04.1148

   System Date                     [Wed 01/04/2012]
   System Time                     [02:57:21]

   Access Level                    Administrator




                Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.
```

Feature	Description	Options
System Date	The date format is <Day>, <Month> <Date> <Year>. Use [＋] or [－] to configure system Date.	
System Time	The time format is <Hour> <Minute> <Second>. Use [＋] or [－] to configure system Time.	

4.3   Configuration

Use this menu to set up the items of special enhanced features.

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
      Main  Configuration  Security  Boot  Save & Exit

   ▶ CPU Configuration                                                    CPU Configuration Parameters
   ▶ Chipset Configuration
   ▶ LAN Configuration
   ▶ Graphics Configuration
   ▶ PCI/PCIE Configuration
   ▶ SATA Configuration
   ▶ USB Configuration
   ▶ Power Control Configuration
   ▶ TPM Configuration
   ▶ Super IO Configuration
   ▶ H/W Monitor
   ▶ Serial Port Console Redirection

                                                                          →←: Select Screen
                                                                          ↑↓: Select Item
                                                                          Enter: Select
                                                                          +/-: Change Opt.
                                                                          F1: General Help
                                                                          F2: Previous Values
                                                                          F3: Optimized Defaults
                                                                          F4: Save & Exit
                                                                          F12: Capture Screen
                                                                          ESC: Exit
```

CPU configuration

CPU Configure the specific active core(s) and advanced processor management technologies.

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
    Configuration

  CPU Configuration                                              When enabled, a VMM can utilize the
                                                                 additional hardware capabilities
  CPU Signature                  30679                           provided by Vanderpool Technology
  Microcode Patch                903
  Max CPU Speed                  1910 MHz
  Min CPU Speed                  500 MHz
  Processor Cores                4
  Intel HT Technology            Not Supported
  Intel VT-x Technology          Supported
  64-bit                         Supported
  L1 Data Cache                  24 kB x 4
  L1 Code Cache                  32 kB x 4
  L2 Cache                       1024 kB x 2

  Intel Virtualization Technology   [Enabled]
  CPU C6 report                     [Disabled]

                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 F12: Capture Screen
                                                                 ESC: Exit
```

Feature	Description	Options
Intel Virtualization	When enabled, a VMM can utilize the additional hardware capabilities provided by Vander-poof Technology	★Enabled, Disabled
CPU C6 report	Enable/Disable CPU C6(ACPI C3) report to OS	★Disabled, Enabled

Chipset Configuration

Configuration Chipset feature.

```
                        Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
   Configuration

   Chipset Configuration                                        Enable or Disable the High Precision
                                                                Event Timer.
   High Precision Timer            [Enabled]
   Audio Controller                [Enabled]
     Azalia HDMI Codec             [Enabled]

   Memory Information

   Total Memory                    4096 MB (DDR3L)
   Memory Slot0                    4096 MB (DDR3L)



                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                F12: Capture Screen
                                                                ESC: Exit
```

Feature	Description	Options
High Precision Timer	Enable or Disable the High Precision Event Timer	★Enabled, Disabled
Audio Controller	Control Detection of the Azalia device. Disabled = Azalia will be unconditionally disabled. Enabled= Azalia will be unconditionally enabled.	Disabled, ★Enabled
Azalia HDMI Codec	Enable/Disable internal HDMI codec for Azalia	Disabled, ★Enabled

LAN Configuration
Configuration on board LAN device

```
                       Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
    Configuration

   LAN Configuration                                            Enable or Disable Lan Contorller 1 (PCI
                                                                Express Port 2).

   Intel Ethernet Controller WGI210AT
   Lan Contorller 1                    [Enabled]
   LAN MAC Address                     00-90-FB-4E-71-96
   Launch Legacy PXE Rom               [Disable]

   Intel Ethernet Controller WGI210AT
   Lan Contorller 2                    [Enabled]
   LAN MAC Address                     00-90-FB-4E-72-06
   Launch Legacy PXE Rom               [Disable]

   Wake On Lan Controller              [Enabled]

                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                F12: Capture Screen
                                                                ESC: Exit
```

Feature	Description	Options
Lan Controller 1	Enable or Disable Lan controller 1(PCI Express Port 2).	★Enabled, Disabled
Launch Legacy PXE Rom	Launch Legacy PXE Rom. [Disable] Not launch Rom, [Enable] Force Launch Rom.	★Disable, Enable
Lan Controller 2	Enable or Disable Lan controller 2(PCI Express Port 3).	★Enabled, Disabled
Launch Legacy PXE Rom	Launch Legacy PXE Rom. [Disable] Not launch Rom, [Enable] Force Launch Rom.	★Disable, Enable
Wake On Lan controller	Enable/Disable Intel Lan 0 and Intel Lan 1 WGI210AT wakeup function.	★Enabled, Disabled

Graphic Configuration

Configure Graphics Setting.

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
      Configuration

  Graphics Configuration                                     Enable : Enable Integrated Graphics
                                                             Device (IGD) when selected as the
                                                             Primary Video Adaptor. Disable: Always
  Intel IGD Configuration                                    disbale IGD
  Integrated Graphics Device         [Enabled]
  Primary Display                    [Auto]
  DVMT Pre-Allocated                 [64M]

  Touch Pad                          [Enabled]

  LIGHT SENSOR                       [Enabled]

  LVDS Controller                    [Enabled]

  IGD Output Display control - GOP
  IGD Flat Panel                     [Auto]

  IGD Output Display control - CSM
  Primary IGFX Boot Display          [VGA]               →←: Select Screen
  Secondary IGFX Boot Display        [VGA]               ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         F12: Capture Screen
                                                         ESC: Exit
```

Feature	Description	Options
Integrated Graphics Device	Enable: Enable Integrated Graphics Device (IGD) when selected as the Primary Video Adapter. Disable: Always disable IGD	★Enabled, Disabled
Primary Display	Select which of IGD/PCI Graphics device should be Primary Display.	★Auto, IGD, PCIe, SG
DVMT Pre-Allocated	Select DVMT 5.0 Pre-Allocated(Fixed) Graphics Memory size used by the Internal Graphics Device.	★ 64M, 96M, 128M, 160M, 192M, 224M, 256M, 288M, 320M, 352M, 384M, 416M, 448M, 480M, 512M
Touch Pad	Touch Pad Enable/Disable	Disabled, ★Enabled
LIGHT SENSOR	Light Sensor support Enabled/Disabled	★Enabled, Disabled
LVDS Controller	Enable/Disable LVDS.	★Enabled, Disabled
Primary IGFX Boot Display	Select the Video Device which will be active during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection.	★VBIOS Default, VGA, HDMI, LVDS
Secondary IGFX Boot Display (primary IGFX Boot Display: VGA , HDMI, LVDS)	Select Secondary Display Device	★Disabled, VGA, HDMI. LVDS

PCI/PCIE Configuration
PCI , PCI –X and PCI Express Setting.

```
                    Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
   Configuration

   PCI/PCIE Configuration                                         PCI Express Configuration settings

 ▶ PCI Express Configuration




                                                                 ↔: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 F12: Capture Screen
                                                                 ESC: Exit
```

PCIE Express Configuration
PCI Express Configuration Setting.

```
                    Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
   Configuration

   PCI Express Configuration                                      Enable or Disable the PCI Express Port
   PCI Express Port 0              [Enabled]                      0 in the Chipset.
     Speed                        [Auto]
     Hot Plug                     [Enabled]

   PCI Express Port 1             [Enabled]
     Speed                        [Auto]
     Hot Plug                     [Enabled]

   PCI Express Port 2             [Enabled]

   PCI Express Port 3             [Enabled]



                                                                 ↔: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 F12: Capture Screen
                                                                 ESC: Exit
```

Feature	Description	Options
PCI Express Port 0	Enable or Disable the PCI Express Port 0 in the Chipset	★Enabled, Disabled
Speed	Configure PCIe Port Speed	★Auto, Gen 2, Gen 1
Hot Plug	Enable or disable PCI Express Hot Plug	Disabled, ★Enabled
PCI Express Port 1	Enable or Disable the PCI Express Port 1 in the Chipset	★Enabled, Disabled
Speed	Configure PCIe Port Speed	★Auto, Gen 2, Gen 1
Hot Plug	Enable or disable PCI Express Hot Plug	Disabled, ★Enabled
PCI Express Port 2	Enable or Disable the PCI Express Port 2 in the Chipset	★Enabled, Disabled
PCI Express Port 3	Enable or Disable the PCI Express Port 3 in the Chipset	★Enabled, Disabled

SATA Configuration

SATA device Options setting.
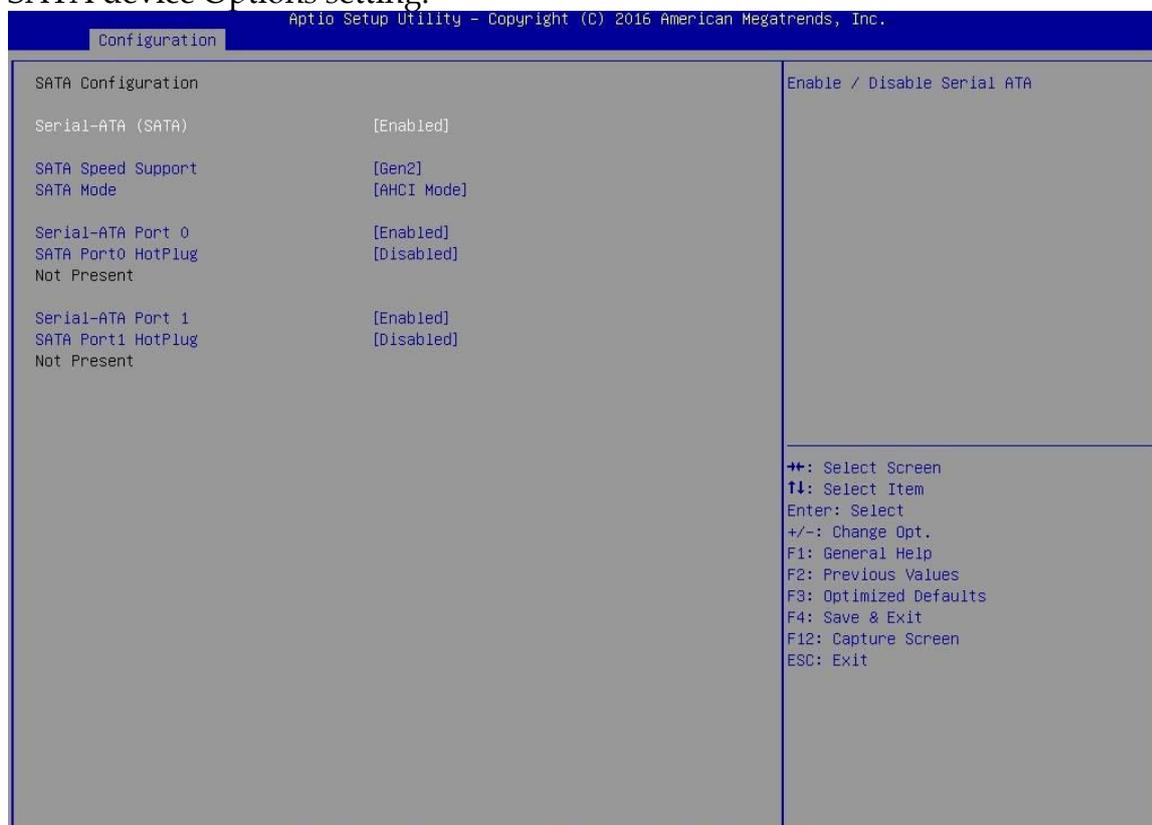
Feature	Description	Options
Serial-ATA(SATA)	Enable/Disable Serial ATA	★Enabled, Disabled
SATA Speed Support	SATA Speed Support Gen 1 or Gen 2	Gen1, ★Gen2
SATA Mode	Select IDE/ AHCI	IDE Mode, ★AHCI Mode
Serial-ATA Port 0	Enable/Disable Seral ATA Port 0	★Enabled, Disabled
SATA Port0 HotPlug	Enable/Disable SATA Port0 HotPlug	Enabled, ★Disabled
Serial-ATA Port1	Enable/Disable Seral ATA Port 1	★Enabled, Disabled
SATA Port1 HotPlug	Enable/Disable SATA Port1 HotPlug	Enabled, ★Disabled

USB Configuration

USB Configuration Parameters.

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
    Configuration

   USB Configuration                                        Enables Legacy USB support. AUTO option
                                                            disables legacy support if no USB
   USB Devices:                                             devices are connected. DISABLE option
        1 Drive, 1 Keyboard, 1 Mouse, 1 Point, 1 Hub        will keep USB devices available only
                                                            for EFI applications.
   Legacy USB Support                    [Enabled]
   XHCI Legacy Support                   [Enabled]
   XHCI Hand-off                         [Enabled]
   EHCI Hand-off                         [Disabled]
   USB Mass Storage Driver Support       [Enabled]
 ▶ USB Configuration

   Mass Storage Devices:
   Sony Storage Media PMAP               [Auto]

                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            F12: Capture Screen
                                                            ESC: Exit
```

Feature	Description	Options
Legacy USB Support	Enable Legacy USB support. Auto option disables legacy support id no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.	★Enabled, Disabled,Auto
XHCI Legacy Support	Enable/Disable XHCI Controller Legacy support.	★Enabled, Disabled
XHCI Hand-off	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver	★Enabled, Disabled
EHCI Hand -off	This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver	★Disabled, Enabled
USB Mass Storage Driver Support	Enable/Disable USB Mass Storage Driver Support.	Disabled, ★Enabled

USB Configuration

USB Configuration settings. (USB2.0/USB3.0)

```
                        Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
     Configuration

    USB Configuration                                                    Mode of operation of xHCI controller

    XHCI Mode                          [Disabled]

    USB 2.0(EHCI) Support              [Disabled]
    USB 3.0 Port                       [Enabled]
    USB 2.0 Port                       [Enabled]




                                                                         ↔↔: Select Screen
                                                                         ↑↓: Select Item
                                                                         Enter: Select
                                                                         +/-: Change Opt.
                                                                         F1: General Help
                                                                         F2: Previous Values
                                                                         F3: Optimized Defaults
                                                                         F4: Save & Exit
                                                                         F12: Capture Screen
                                                                         ESC: Exit
```
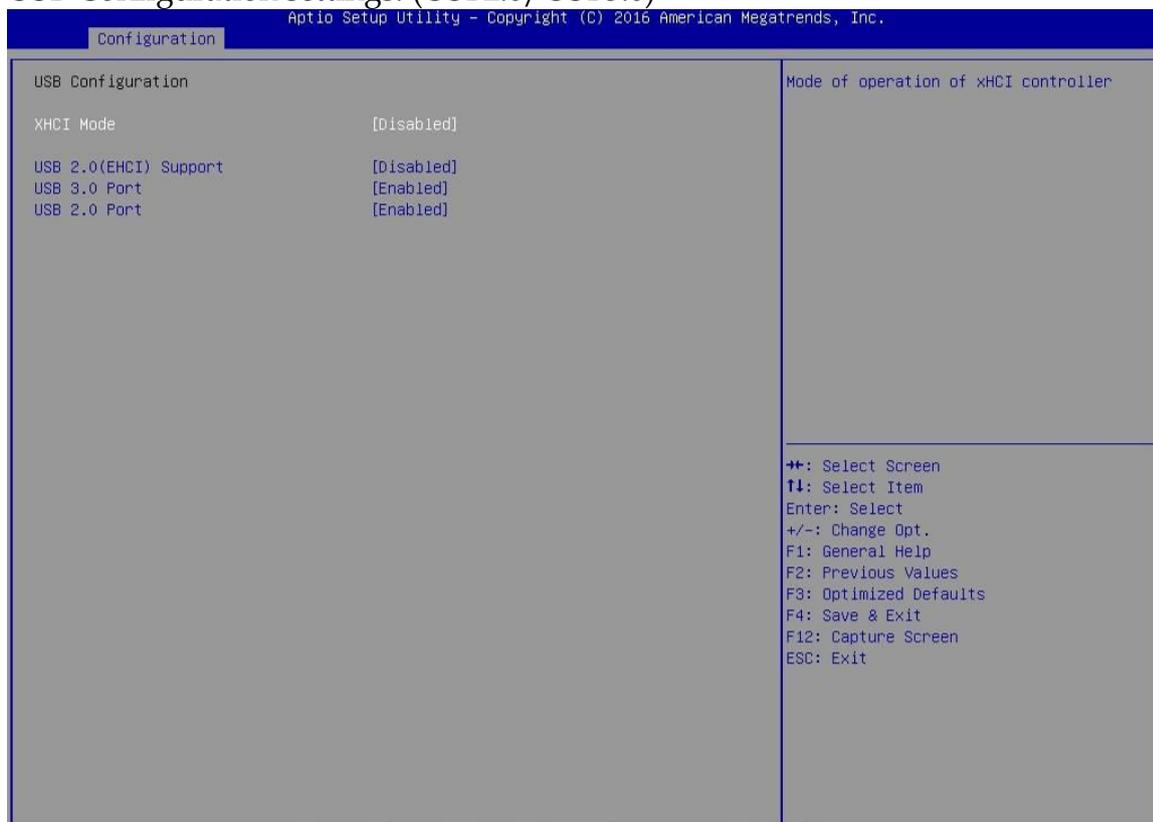
Feature	Description	Options
XHCI Mode	Mode of operation of xHCI controller	★Enabled, Disabled
USB 2.0(EHCI) Support (XHCI Mode: Disabled)	Control the USB EHCI(USB 2.0) functions. One EHCI controller must always be enabled.	Enabled, ★Disabled
USB 3.0 Port	Enabled /Disable USB3.0 Port	★Enabled, Disabled
USB 2.0 Port	Enabled /Disable USB2.0 Port	★Enabled, Disabled

Power Control Configuration

System Power Control Configuration Parameters.

```
                          Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
    Configuration

   Power Control Configuration                                          Enables or Disables System ability to
                                                                        Hibernate (OS/S4 Sleep State). This
   Enable Hibernation              [Enabled]                            option may be not effective with some
   ACPI Sleep State                [S3 (Suspend to RAM)]                OS.
   Restore AC Power Loss           [Last State]

   RTC Wakeup                      [Enabled]
   Wake up day                     0
   Wake up hour                    0
   Wake up minute                  0
   Wake up second                  0

   Wake On Ring Controller         [Disabled]


                                                                        →←: Select Screen
                                                                        ↑↓: Select Item
                                                                        Enter: Select
                                                                        +/-: Change Opt.
                                                                        F1: General Help
                                                                        F2: Previous Values
                                                                        F3: Optimized Defaults
                                                                        F4: Save & Exit
                                                                        F12: Capture Screen
                                                                        ESC: Exit
```

Feature	Description	Options
Enable Hibernation	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.	Disabled, ★Enabled
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)
Restore AC Power Loss	Select AC power state when power is re-applied after a power failure.	Power Off, Power On, ★Last State
RTC Wakeup	Enable or disable System wake on alarm event. [Enabled]: System will wake on the hr::min::sec specified. [Disabled]: Turn off RTC Wakeup	Disabled, ★Enabled
Wake up day	Select 0 for daily system wake up 1-31 for which day of the month that you would like the system to wake up	
Wake up hour	Select 0-23 For example: enter 3 for 3am and 15 for 3pm	
Wake up minute	Select 0-59 For example: enter 10 for 10 minutes	
Wake up second	Select 0-59 For example: enter 10 for 10 seconds	
Wake On Ring Controller	Enable/Disable GPIO Wake On Ring function.	Enabled, ★Disabled

TPM Configuration
Trusted Computing Settings

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
  Configuration

 TPM Configuration                                          Enables or Disables BIOS support for
                                                            security device. O.S. will not show
   Security Device Support            [Enable]              Security Device. TCG EFI protocol and
                                                            INT1A interface will not be available.

 Current Status Information
   NO Security Device Found




                                                            ↔: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            F12: Capture Screen
                                                            ESC: Exit



```

Feature	Description	Options
Security Device Support	Enables or disables BIOS support for security device. OS will not show security Device. TCG EFI protocol and INT1A interface will not be available.	Disable, ★Enable

Super IO Configuration
System Super IO Chip Parameters.

```
                        Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
    Configuration

 Super IO Configuration                                          Enable/Disable Watch Dog Timer

 Watch Dog Timer                   [Enabled]
 Timer Unit                        [Second]
 Timer value                       20

 ▶ Serial Port 1 Configuration
 ▶ Serial Port 2 Configuration
 ▶ Serial Port 3 Configuration
 ▶ Serial Port 4 Configuration

 Expansion Board                   [SB-100]
 ▶ Serial Port 5 Configuration
 ▶ Serial Port 6 Configuration
 ▶ Serial Port 7 Configuration
 ▶ Serial Port 8 Configuration

                                                                ➔←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                F12: Capture Screen
                                                                ESC: Exit
```

Feature	Description	Options
Watch Dog Timer	Enable/Disable Watch Dog Timer	★Disabled, Enabled
Time Unit	Select Timer Count unit of WDT	★Second, Minute
Timer value	Set WDT Timer value seconds/minutes	
Expansion Board	Switch the SB-100, SB-200, SB-300	None, SB-100, SB-200, SB-300

Serial Port 1 Configuration
Set Parameters of serial Port 1 (COMA)

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
 Main

 Serial Port 1 Configuration                                      Enable or Disable Serial Port (COM)

 Serial Port                      [Enabled]
 UART Mode                        [RS232]
 Device Settings                  IO=3F8h; IRQ=4;
 RS-485 Auto Flow Control         [Disabled]

 Terminal Resistor Control        [Disabled]

 Change Settings                  [IO=3F8h; IRQ=4;]


                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 F12: Capture Screen
                                                                 ESC: Exit
```

Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Diabled, ★Enanbled
UART Mode	Set Current UART MODE RS232, RS485, RS485/RS422	★RS232, RS485, RS422
RS-485 Auto Flow Control	Enable/Disable RS-485 Auto Flow Function.	★Disbled, Enabled
Terminal Resistor Control	Terminal Resistor Control	★Disabled, Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=3F8h; IRQ=4, IO=240h;IRQ=3,4,5,6,7,10,11,12, IO=248h;IRQ=3,4,5,6,7,10,11,12, IO=250h;IRQ=3,4,5,6,7,10,11,12, IO=258h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 2 Configuration
Set Parameters of serial Port 2 (COMB)

```
                     Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
  Main

  Serial Port 2 Configuration                                      Enable or Disable Serial Port (COM)

  Serial Port                      [Enabled]
  Device Settings                  IO=2F8h; IRQ=3;

  Change Settings                  [IO=2F8h; IRQ=3;]

                                                                  →←: Select Screen
                                                                  ↑↓: Select Item
                                                                  Enter: Select
                                                                  +/-: Change Opt.
                                                                  F1: General Help
                                                                  F2: Previous Values
                                                                  F3: Optimized Defaults
                                                                  F4: Save & Exit
                                                                  F12: Capture Screen
                                                                  ESC: Exit
```
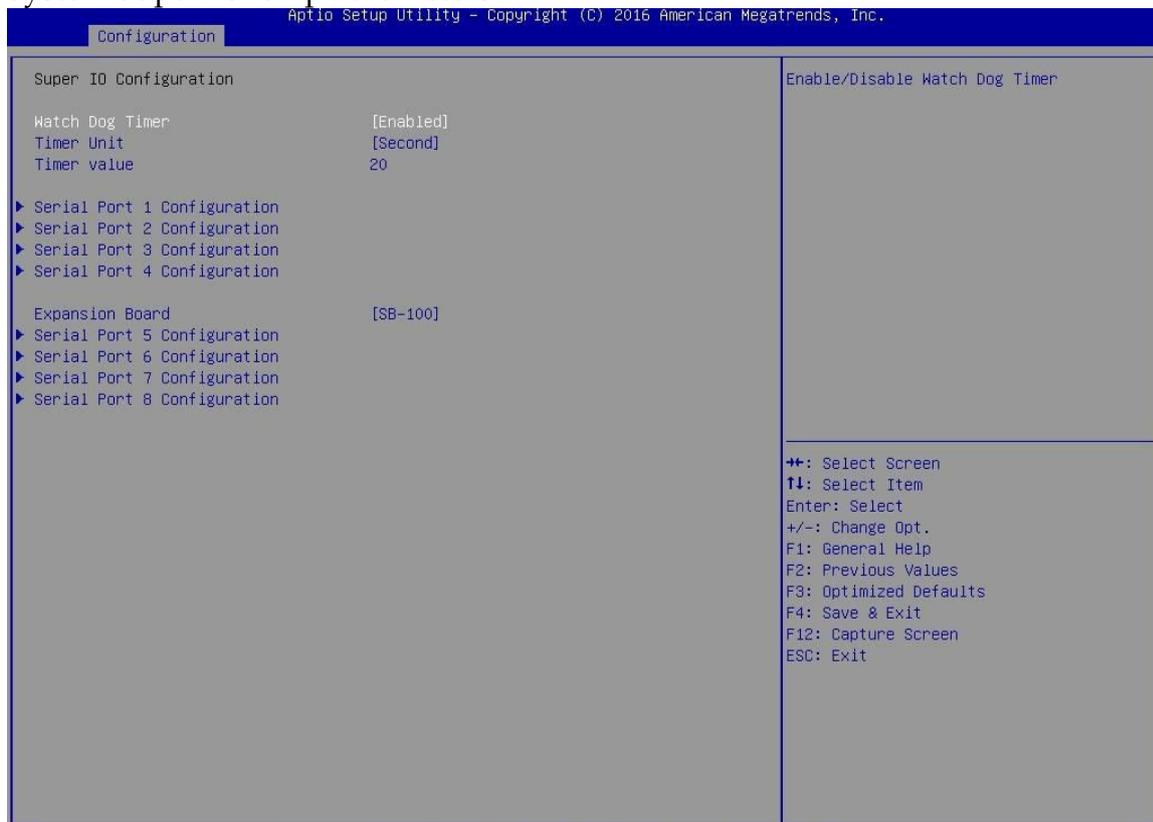
Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Disabled, ★Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=2F8h; IRQ=3, IO=240h;IRQ=3,4,5,6,7,10,11,12, IO=248h;IRQ=3,4,5,6,7,10,11,12, IO=250h;IRQ=3,4,5,6,7,10,11,12, IO=258h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 3 Configuration
Set Parameters of serial Port 3 (COMC)

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
   Main

  Serial Port 3 Configuration                                        Enable or Disable Serial Port (COM)

  Serial Port                    [Enabled]
  Device Settings                IO=3E8h; IRQ=10;

  Change Settings                [IO=3E8h; IRQ=10;]




                                                                   →←: Select Screen
                                                                   ↑↓: Select Item
                                                                   Enter: Select
                                                                   +/-: Change Opt.
                                                                   F1: General Help
                                                                   F2: Previous Values
                                                                   F3: Optimized Defaults
                                                                   F4: Save & Exit
                                                                   F12: Capture Screen
                                                                   ESC: Exit



```

Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Disabled, ★Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=3E8h; IRQ=3, IO=240h;IRQ=3,4,5,6,7,10,11,12, IO=248h;IRQ=3,4,5,6,7,10,11,12, IO=250h;IRQ=3,4,5,6,7,10,11,12, IO=258h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 4 Configuration
Set Parameters of serial Port 4 (COMD)

```
                    Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
  Main

 Serial Port 4 Configuration                                          Enable or Disable Serial Port (COM)

 Serial Port                        [Enabled]
 UART Mode                          [RS232]
 Device Settings                    IO=2E8h; IRQ=10;
 RS-485 Auto Flow Control           [Disabled]

 Terminal Resistor Control          [Disabled]

 Change Settings                    [IO=2E8h; IRQ=10;]




                                                                     →←: Select Screen
                                                                     ↑↓: Select Item
                                                                     Enter: Select
                                                                     +/-: Change Opt.
                                                                     F1: General Help
                                                                     F2: Previous Values
                                                                     F3: Optimized Defaults
                                                                     F4: Save & Exit
                                                                     F12: Capture Screen
                                                                     ESC: Exit
```

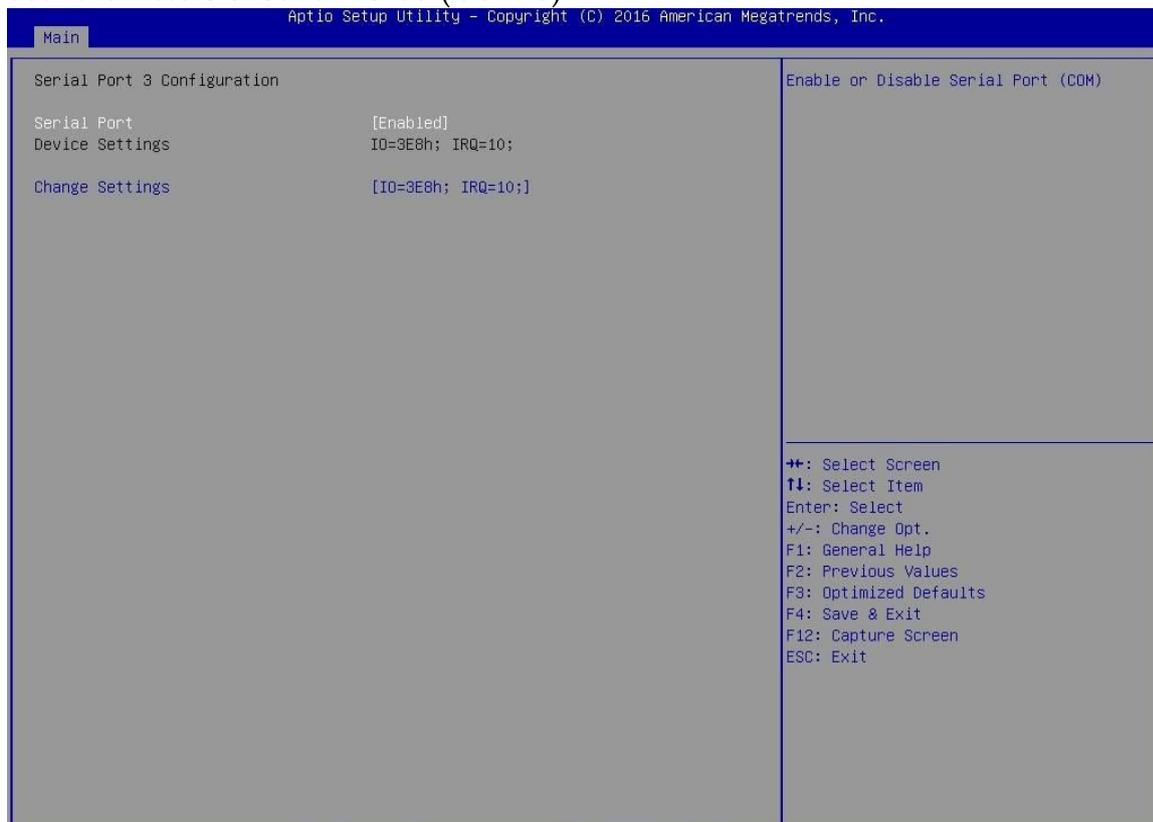| Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Diabled, ★Enanbled
UART Mode	Set Current UART MODE RS232, RS485, RS485/RS422	★RS232, RS485, RS422
RS-485 Auto Flow Control	Enable/Disable RS-485 Auto Flow Function.	★Disbled, Enabled
Terminal Resistor Control	Terminal Resistor Control	★Disabled, Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=2E8h; IRQ=10, IO=240h;IRQ=3,4,5,6,7,10,11,12, IO=248h;IRQ=3,4,5,6,7,10,11,12, IO=250h;IRQ=3,4,5,6,7,10,11,12, IO=258h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 5 Configuration
Set Parameters of serial Port 5 (COME)

```
              Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
 Main

 Serial Port 5 Configuration                                Enable or Disable Serial Port (COM)

 Serial Port                      [Enabled]
 Device Settings                  Reset Required

 Change Settings                  [IO=280h; IRQ=11;]




                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            F12: Capture Screen
                                                            ESC: Exit
```

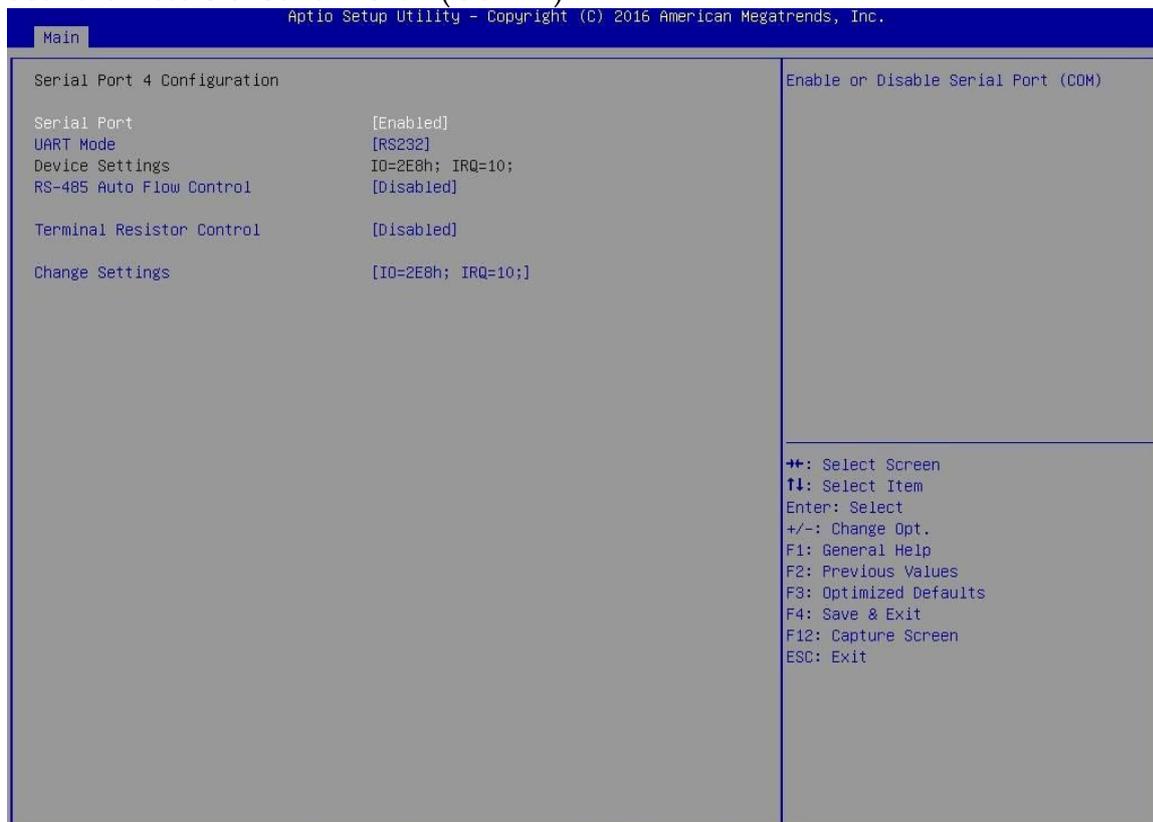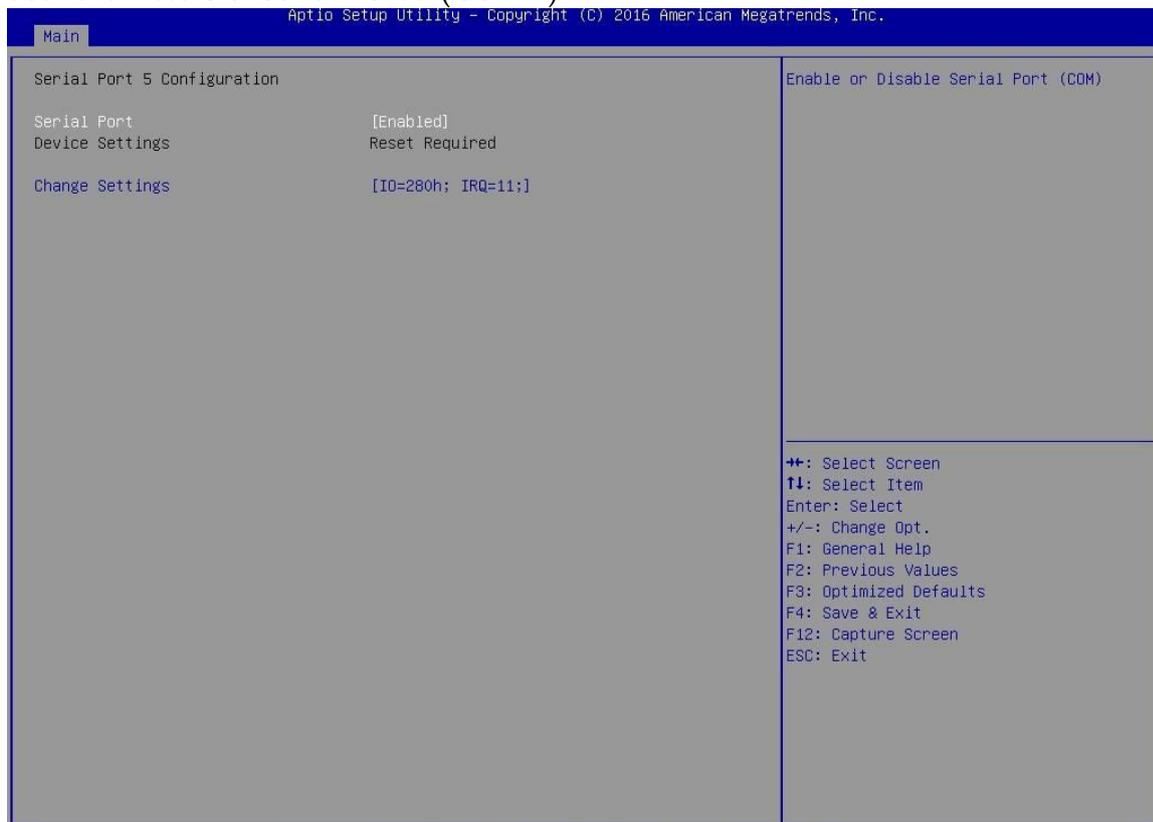| Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Disabled, ★Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=280h; IRQ=11, IO=280h;IRQ=3,4,5,6,7,10,11,12, IO=288h;IRQ=3,4,5,6,7,10,11,12, IO=290h;IRQ=3,4,5,6,7,10,11,12, IO=298h;IRQ=3,4,5,6,7,10,11,12, IO=2A0h;IRQ=3,4,5,6,7,10,11,12, IO=2A8h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 6 Configuration
Set Parameters of serial Port 6 (COMF)

```
                    Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
  Main

  Serial Port 6 Configuration                                    Enable or Disable Serial Port (COM)

  Serial Port                      [Enabled]
  Device Settings                  Reset Required

  Change Settings                  [IO=288h; IRQ=11;]


















                                                               ⭢⭠: Select Screen
                                                               ⭡⭣: Select Item
                                                               Enter: Select
                                                               +/-: Change Opt.
                                                               F1: General Help
                                                               F2: Previous Values
                                                               F3: Optimized Defaults
                                                               F4: Save & Exit
                                                               F12: Capture Screen
                                                               ESC: Exit
```

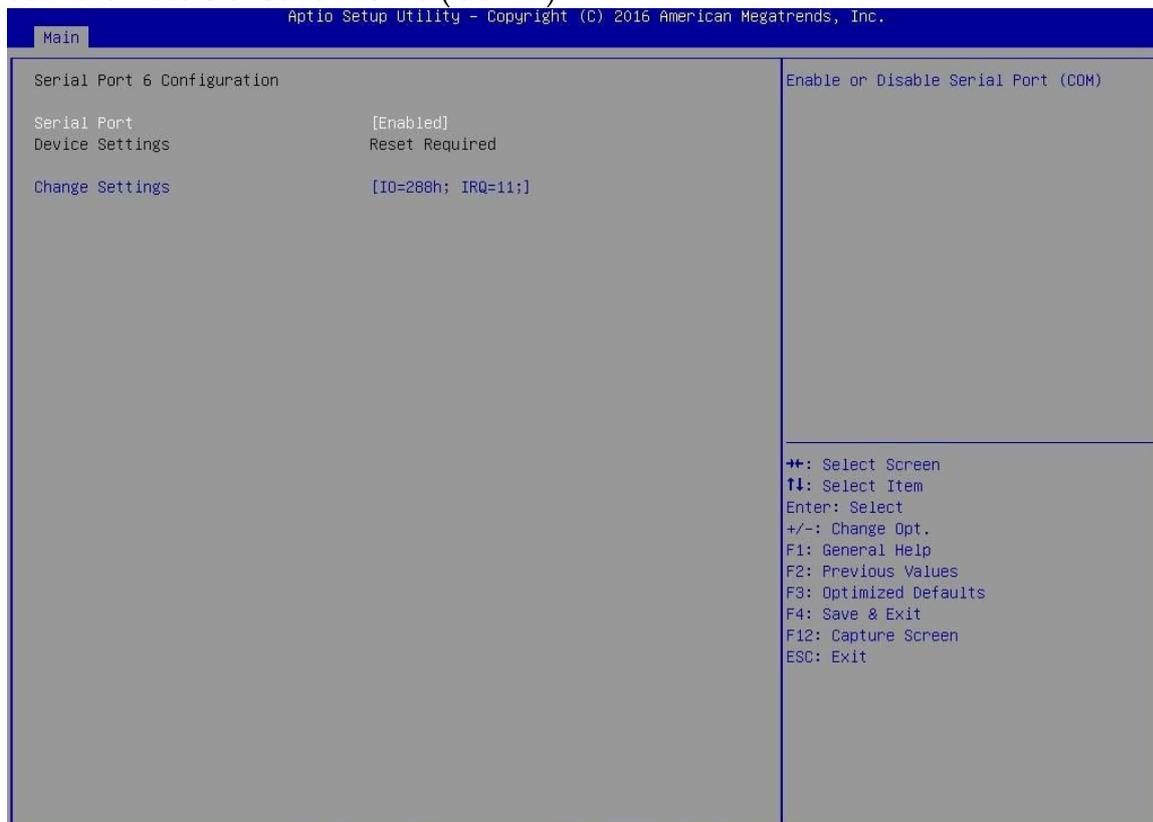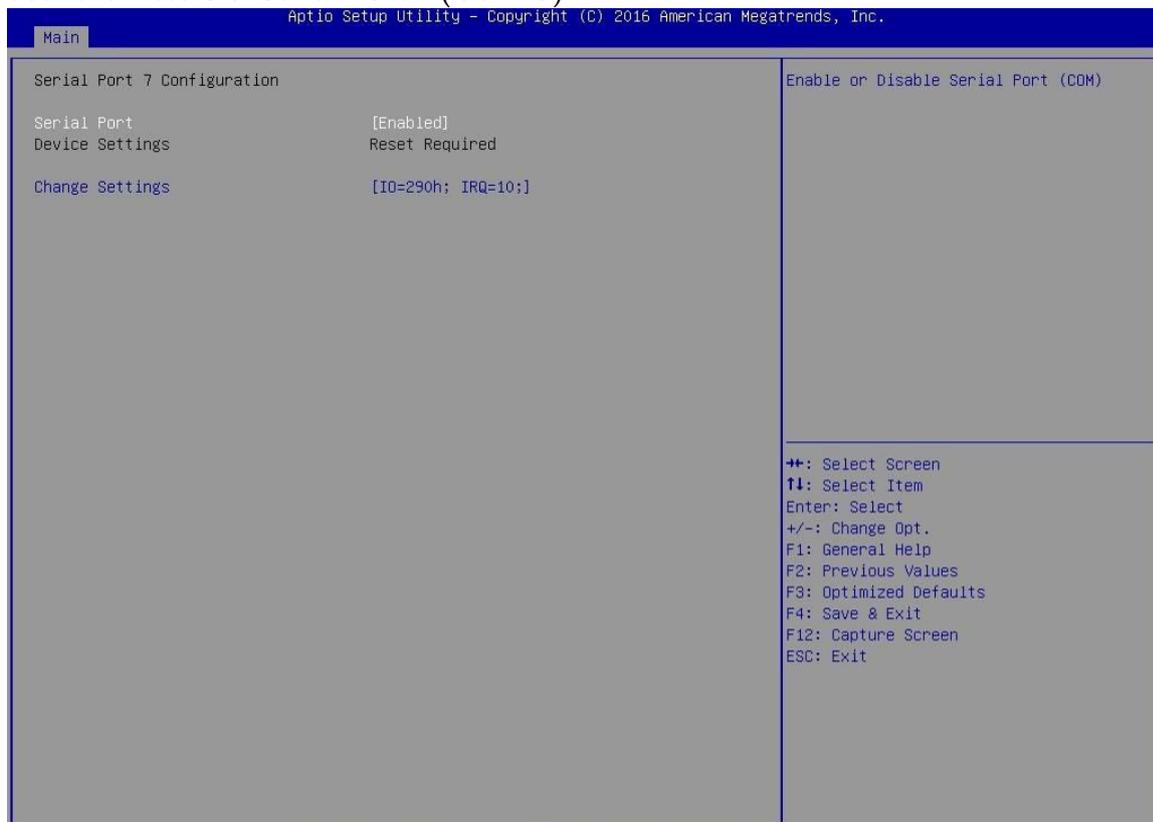| Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Disabled, ★Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=288h; IRQ=11, IO=280h;IRQ=3,4,5,6,7,10,11,12, IO=288h;IRQ=3,4,5,6,7,10,11,12, IO=290h;IRQ=3,4,5,6,7,10,11,12, IO=298h;IRQ=3,4,5,6,7,10,11,12, IO=2A0h;IRQ=3,4,5,6,7,10,11,12, IO=2A8h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 7 Configuration

Set Parameters of serial Port 7 (COMG)

```
                 Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
  Main

 Serial Port 7 Configuration                                    Enable or Disable Serial Port (COM)

 Serial Port                        [Enabled]
 Device Settings                    Reset Required

 Change Settings                    [IO=290h; IRQ=10;]








                                                               →←: Select Screen
                                                               ↑↓: Select Item
                                                               Enter: Select
                                                               +/-: Change Opt.
                                                               F1: General Help
                                                               F2: Previous Values
                                                               F3: Optimized Defaults
                                                               F4: Save & Exit
                                                               F12: Capture Screen
                                                               ESC: Exit
```

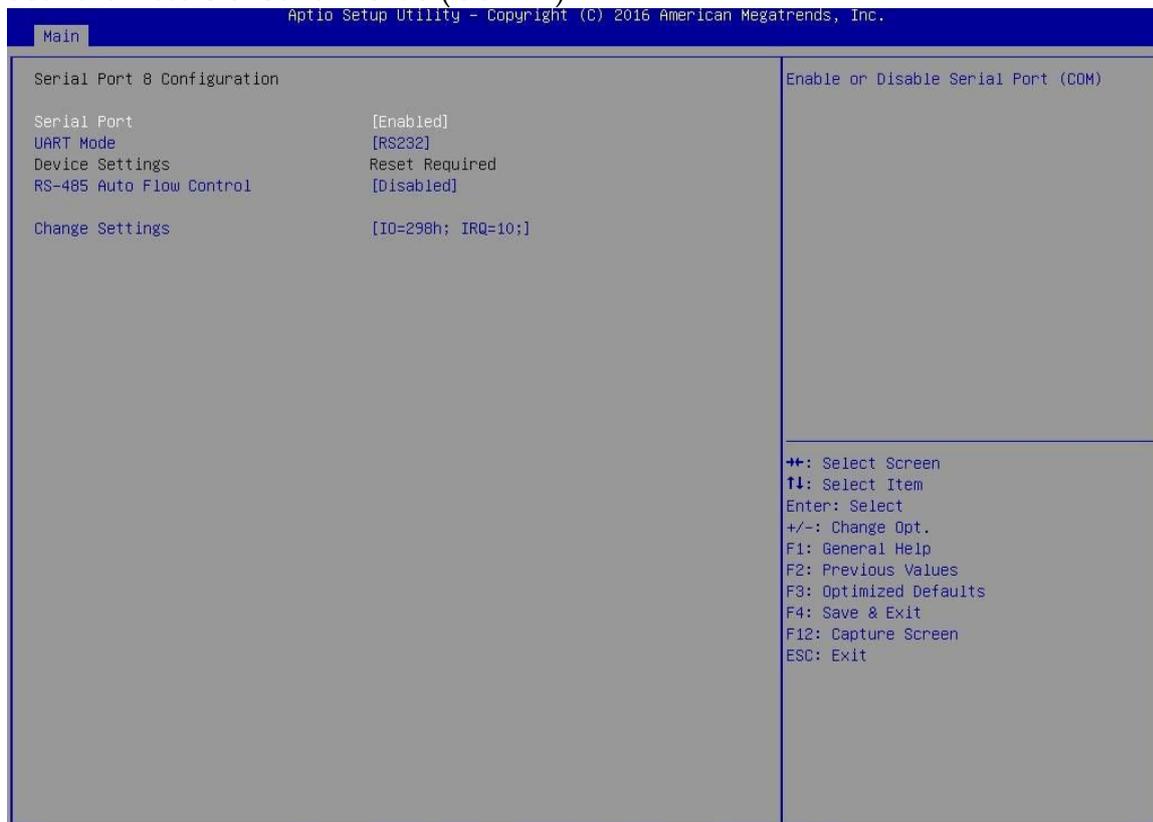| Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Disabled, ★Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=290h; IRQ=10, IO=280h;IRQ=3,4,5,6,7,10,11,12, IO=288h;IRQ=3,4,5,6,7,10,11,12, IO=290h;IRQ=3,4,5,6,7,10,11,12, IO=298h;IRQ=3,4,5,6,7,10,11,12, IO=2A0h;IRQ=3,4,5,6,7,10,11,12, IO=2A8h;IRQ=3,4,5,6,7,10,11,12,

Serial Port 8 Configuration
Set Parameters of serial Port 8 (COMH)

```
                      Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
   Main

 Serial Port 8 Configuration                                      Enable or Disable Serial Port (COM)

 Serial Port                    [Enabled]
 UART Mode                      [RS232]
 Device Settings                Reset Required
 RS-485 Auto Flow Control       [Disabled]

 Change Settings                [IO=298h; IRQ=10;]



                                                                 ←→: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 F12: Capture Screen
                                                                 ESC: Exit
```

Feature	Description	Options
Serial Port	Enable or Disable Serial Port (COM)	Diabled, ★Enanbled
UART Mode	Set Current UART MODE RS232, RS485, RS485/RS422	★RS232, RS485 HALF DUFLEX, RS485/422 FULL DUFLEX
RS-485 Auto Flow Control	Enable/Disable RS-485 Auto Flow Function.	★Disbled, Enabled
Change Settings	Select an optional settings for Super IO Device	Auto, ★IO=298h; IRQ=10, IO=280h;IRQ=3,4,5,6,7,10,11,12, IO=288h;IRQ=3,4,5,6,7,10,11,12, IO=290h;IRQ=3,4,5,6,7,10,11,12, IO=298h;IRQ=3,4,5,6,7,10,11,12, IO=2A0h;IRQ=3,4,5,6,7,10,11,12, IO=2A8h;IRQ=3,4,5,6,7,10,11,12,

Hardware Monitor

Monitor hardware status.

```
                         Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
     Configuration

 Pc Health Status

 CPU temperature                    : +68 C
 System temperature                 : +49 C
 Vcore                              : +0.879 V
 +3.3V                              : +3.378 V
 +5V                                : +5.136 V
 +12V                               : +12.454 V
 VDIMM                              : +1.362 V

                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           F12: Capture Screen
                                                           ESC: Exit
```
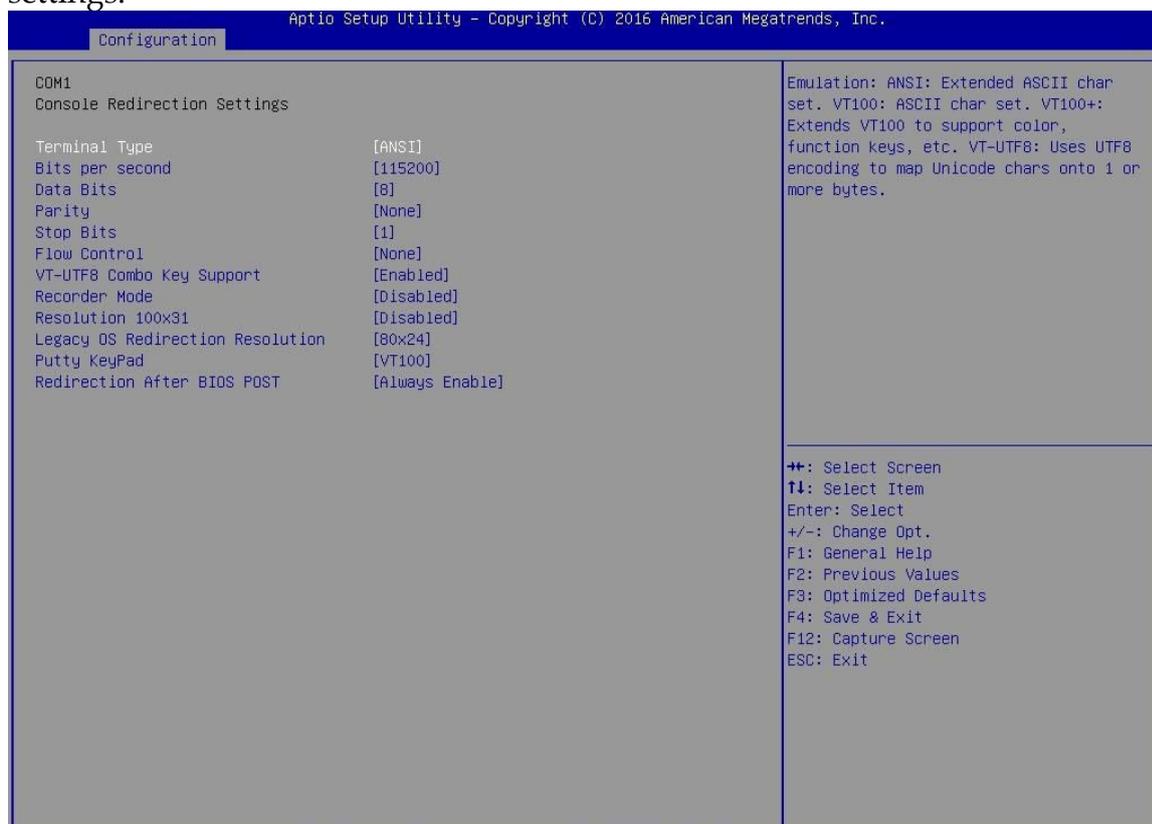
Series Port Console Redirection

Series Port Console Redirection

```
                         Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
     Configuration

 Serial Port Console Redirection                          Console Redirection Enable or Disable.


 COM1
 Console Redirection                [Enabled]
 ► Console Redirection Settings

                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           F12: Capture Screen
                                                           ESC: Exit
```

Feature	Description	Options
Console Redirection (Enable)	Console Redirection Enable or Disable.	★Disabled, Enabled

Console Redirection Setting

The settings specify how the host computer and remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.
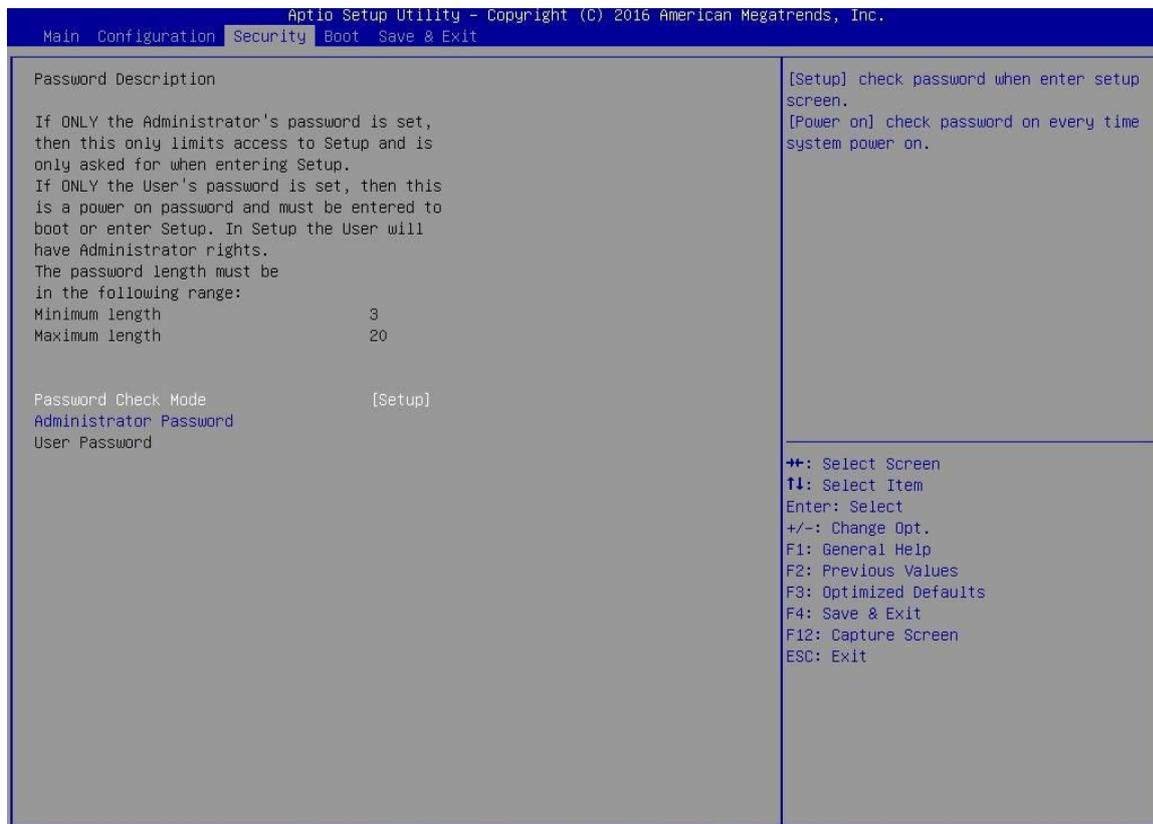
```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
    Configuration

COM1                                                      Emulation: ANSI: Extended ASCII char
Console Redirection Settings                              set. VT100: ASCII char set. VT100+:
                                                          Extends VT100 to support color,
Terminal Type                    [ANSI]                   function keys, etc. VT-UTF8: Uses UTF8
Bits per second                  [115200]                 encoding to map Unicode chars onto 1 or
Data Bits                        [8]                      more bytes.
Parity                           [None]
Stop Bits                        [1]
Flow Control                     [None]
VT-UTF8 Combo Key Support        [Enabled]
Recorder Mode                    [Disabled]
Resolution 100x31                [Disabled]
Legacy OS Redirection Resolution [80x24]
Putty KeyPad                     [VT100]
Redirection After BIOS POST      [Always Enable]

                                                          ──────────────────────────────
                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          F12: Capture Screen
                                                          ESC: Exit
```

Feature	Description	Options
Terminal Type	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	VT100, VT100+, VT-UTF8, ★ANSI
Bits per second	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.	9600, 19200, 38400, 57600, ★115200
Data Bits	Data Bits	7, ★8
Parity	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 is the num of 1's in the data 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. They can be used as an additional data bit.	★None, Even, Odd, Mark, Space

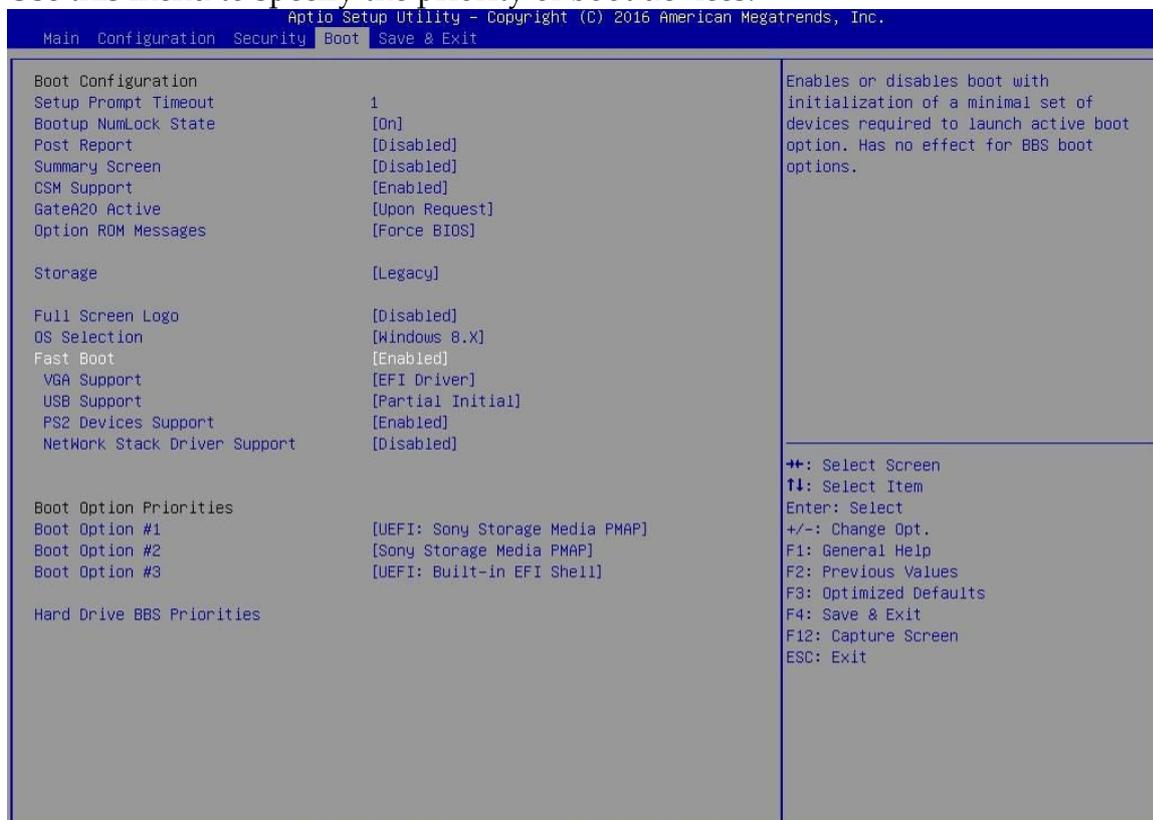|		
Stop Bits	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.	★1,2
Flow Control	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data 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.	★None, Hardware RTS/CTS
VT-UTF8 Combo Key Support	Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals	Disabled, ★Enabled
Recorder Mode	With this mode enable only text will be sent. This is to capture Terminal data.	★Disabled, Enabled
Resolution 100x31	Enables or disables extended terminal resolution	★Disabled, Enabled
Legacy OS Redirection Resolution	On Legacy OS, the Number of Rows and Columns supported redirection	★80x24, 80x25
Putty keypad	Select Function Key and Key Pad on Putty.	★VT100, LINUX, XTERM6, SCO, ESCN, VT400
Redirection After BIOS POST	The Setting specify if Boot Loader is selected then Legacy console redirection is disable before booting to Legacy OS. Default value always enable which means Legacy console Redirection is enable for Legacy OS.	★Always Enable, Boot Loader

4.4   Security

```
                Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
   Main  Configuration  Security  Boot  Save & Exit

  Password Description                              [Setup] check password when enter setup
                                                    screen.
  If ONLY the Administrator's password is set,      [Power on] check password on every time
  then this only limits access to Setup and is      system power on.
  only asked for when entering Setup.
  If ONLY the User's password is set, then this
  is a power on password and must be entered to
  boot or enter Setup. In Setup the User will
  have Administrator rights.
  The password length must be
  in the following range:
  Minimum length                  3
  Maximum length                  20


  Password Check Mode            [Setup]
  Administrator Password
  User Password
                                                    →←: Select Screen
                                                    ↑↓: Select Item
                                                    Enter: Select
                                                    +/-: Change Opt.
                                                    F1: General Help
                                                    F2: Previous Values
                                                    F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    F12: Capture Screen
                                                    ESC: Exit
```

Feature	Description	Options
Password Check Mode	[Setup] check password when enter setup screen. [Power on] check password on every time system power on.	★Setup Power On
Administrator Password	Set Administrator Password	Create New Password

4.5 Boot

Use this menu to specify the priority of boot devices.

```
                 Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
    Main  Configuration  Security  Boot  Save & Exit

   Boot Configuration                                    Enables or disables boot with
   Setup Prompt Timeout            1                     initialization of a minimal set of
   Bootup NumLock State            [On]                  devices required to launch active boot
   Post Report                     [Disabled]            option. Has no effect for BBS boot
   Summary Screen                  [Disabled]            options.
   CSM Support                     [Enabled]
   GateA20 Active                  [Upon Request]
   Option ROM Messages             [Force BIOS]

   Storage                         [Legacy]

   Full Screen Logo                [Disabled]
   OS Selection                    [Windows 8.X]
   Fast Boot                       [Enabled]
    VGA Support                    [EFI Driver]
    USB Support                    [Partial Initial]
    PS2 Devices Support            [Enabled]              ─────────────────────────
    NetWork Stack Driver Support   [Disabled]            →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
   Boot Option Priorities                                +/-: Change Opt.
   Boot Option #1                  [UEFI: Sony Storage Media PMAP]   F1: General Help
   Boot Option #2                  [Sony Storage Media PMAP]         F2: Previous Values
   Boot Option #3                  [UEFI: Built-in EFI Shell]        F3: Optimized Defaults
                                                         F4: Save & Exit
   Hard Drive BBS Priorities                             F12: Capture Screen
                                                         ESC: Exit
```

Feature	Description	Options
Setup Prompt Timeout	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.	★1
Bootup NumLock State	Select the Keyboard NumLock state	★On, off
Post Report	Post Report Support Enabled/Disabled	★Disabled, Enabled
Summary Screen	Summary Screen Support Enabled/Disabled	★Disabled, Enabled
CSM Support	Enable/Disable CSM Support	Disabled, ★Enabled
GateA20 Active	UPON REQUEST – GA20 can be disabled using BIOS services. ALWAYS- do not allow disabling GA20; this option is useful when any RT code is execute above 1MB	★Upon Request, Always
Option ROM Messages	Set display mode for Option ROM	★Force BIOS, Keep Current
Storage	Control the execution of UEFI and Legacy Storage OpROM	Do not launch, UEFI, ★Legacy
Full screen Logo	Enables or disables Quiet Boot option and Full screen Logo.	★Disabled, Enabled
OS Selection	OS Selection	★Windows 8.X, Windows 7
Fast Boot (Enabled)	Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.	★Disabled, Enabled

VGA Support	If Auto, only install Legacy OpRom with Legacy OS and logo would NOT be shown during post. Efi driver will still be installed with EFI OS.	Auto, ★EFI Driver
USB Support	If Disabled, all USB devices will NOT be available until after OS boot. If partial Initial, USB Mass Storage and specific USB port/device will NOT be available before OS boot. If Enabled, al USB devices will be available in OS and post.	Disable Link, Full Initial , ★Partial Initial
PS2 Devices Support	If Disabled, PS2 devices will be skipped	Disabled, ★Enabled
Network Stack Driver Support	If Disabled, Network Stack Driver will be skipped.	★Disable Link, Enabled

Hard Drive BBS Priorities

Set the order of the legacy devices in this group
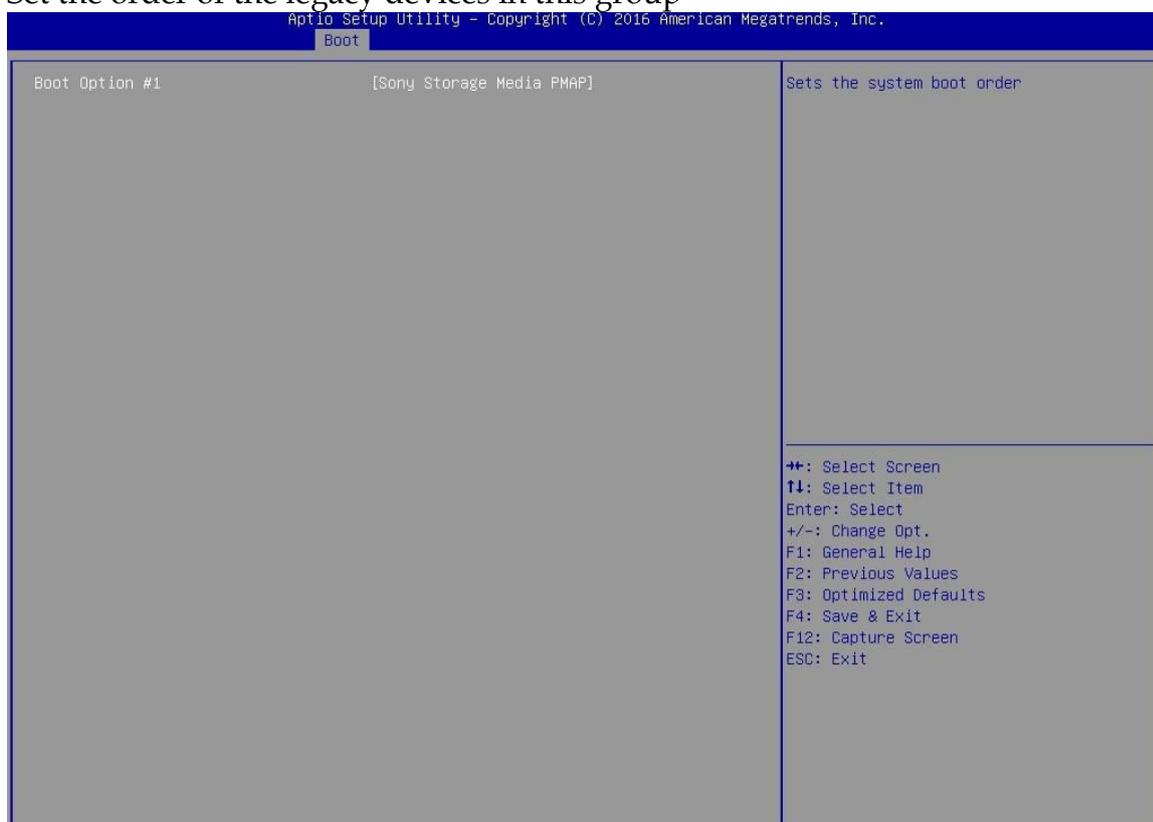
Feature	Description	Options
Boot Option #1	Sets the system boot order	

4.6 Save and Exit

```
                    Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
     Main  Configuration  Security  Boot  Save & Exit

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

    Restore Defaults
    Boot Override
    UEFI: Built-in EFI Shell
    UEFI: Sony Storage Media PMAP
    Sony Storage Media PMAP

    Launch EFI Shell from filesystem device


                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                F12: Capture Screen
                                                                ESC: Exit
```

Feature	Description	Options
Save Changes and Reset	Reset the system after saving the changes	
Discard Changes and Reset	Reset system without saving any changes.	
Restore Defaults	Restore/Load Default values for all the setup options.	
UEFI: Built-in EFI Shell		
Launch EFI Shell from filesystem device	Attempts to Launch EFI Shell application (Shell.efi) from one of the available filesystem devices	

Chapter 5
Important Instructions

This chapter includes instructions which must be carefully followed when the fan-less embedded system is used.

5.1 Note on the Warranty

Due to their limited service life, parts which, by their nature, are especially subject to wear are not included in the guarantee beyond the legal stipulations.

5.2 Exclusion of Accident Liability Obligation

Portwell, Inc. shall be exempt from the statutory accident liability obligation if users fail to abide by the safety instructions.

5.3 Liability Limitations / Exemption from the Warranty Obligation

In the event of damage to the system unit caused by failure to abide by the hints in this manual and on the unit (especially the safety instructions), Portwell, Inc. shall not be required to respect the warranty even during the warranty period and shall be free from the statutory accident liability obligation.

5.4 Declaration of Conformity

EMC
CE/FCC Class A
This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This equipment may not cause harmful interference.
2. This equipment must accept any interference that may cause undesired operation.
Applicable Standards:
EN 55032: 2006 + A1: 2007, Class A
EN 61000-3-2: 2006
EN 61000-3-3: 1995 + A1: 2001 + A2: 2005
EN 55024: 1998 + A1: 2001 + A2: 2003
IEC 61000-4-2: 2008
IEC 61000-4-3: 2006 + A1: 2007
IEC 61000-4-4: 2004
IEC 61000-4-5: 2005
IEC 61000-4-6: 2007
IEC 61000-4-8: 1993 + A1: 2000
IEC 61000-4-11: 2004
FCC 47 CFR Part 15 Subpart

Chapter 6
Frequent Asked Questions

Q1: What materials can be applied on the touch screen of Panel PC?

Answer:

Chemical item	Oil item	General item
Acetone	Water-white mineral oil	Ammonia cleanser
Butanone	Unlead gasoline	Clothing cleanser
Isopropanol	Diedel fuel	Vinegar
Hexane	Engine oil	Coffee
Turpentine	Speed change oil	Tea
Methanol	Antibreeze	Animalistic fat
		Normal Saline
		Salad oil

Q2: What supposed to do when forget the password of system BIOS?

Answer:
Please turn off the power supply, and then find the JP2 to set it from 1-2 short to 2-3 short. Wait for 10 seconds to clean password; then set it back to 1-2 short to turn on power supply.

JP2: CMOS Setup

PIN NO.	DESCRIPTION
1-2	Normal (Keep CMOS Setup) ★ Default
2-3	Clear CMOS Setup

Q3: How to update BIOS?

Answer:
Please follow procedures below step by step.

Step1. Execute the "Update.zip" file to root of the bootable USB pen drive. You can get the "Update.efi" and "Readme.txt" two files.
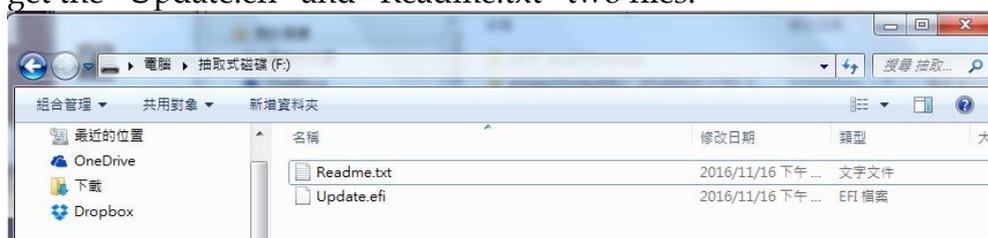
Step2. Insert your USB pen drive in USB port of the FUDA2-S1x21 Series Panel PC and press the power button to power on.

Step3. Press <Del> key during the POST (Power On Self Test) process will enter BIOS setup screen.

Step4. Boot to EFI-Shell mode by choosing below item.
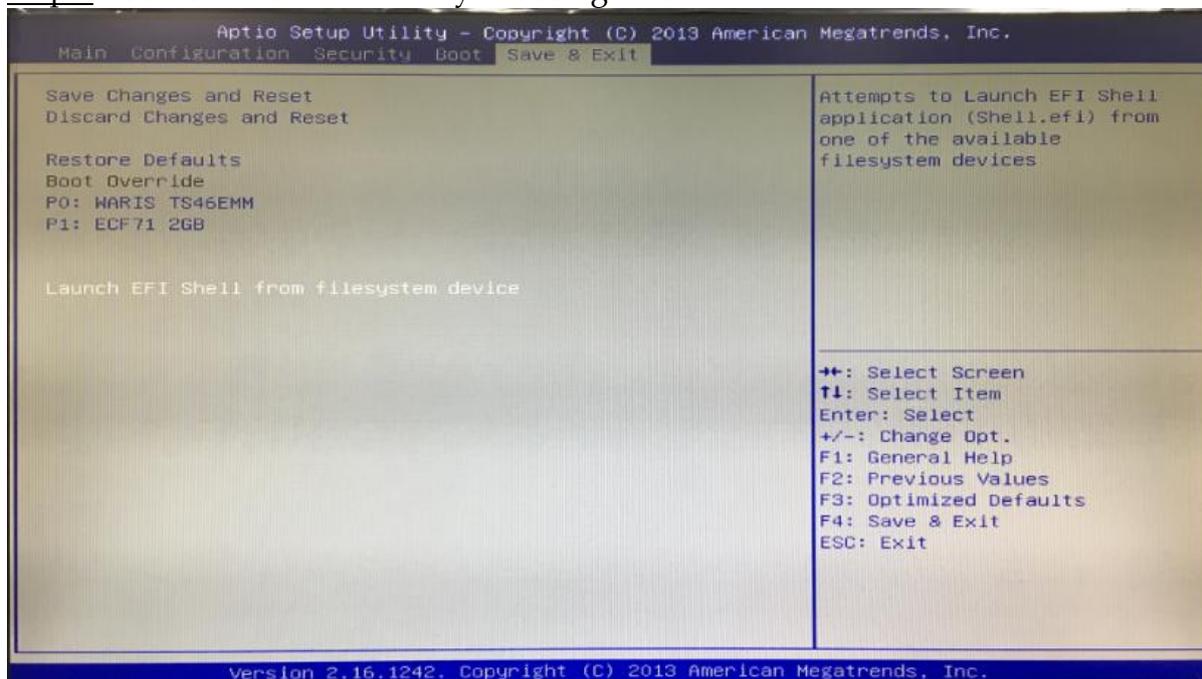
Step5. Type "map –r" command to show the mapping table and find the right location of removable USB pen driver. (in this case is the right location is "fs3")
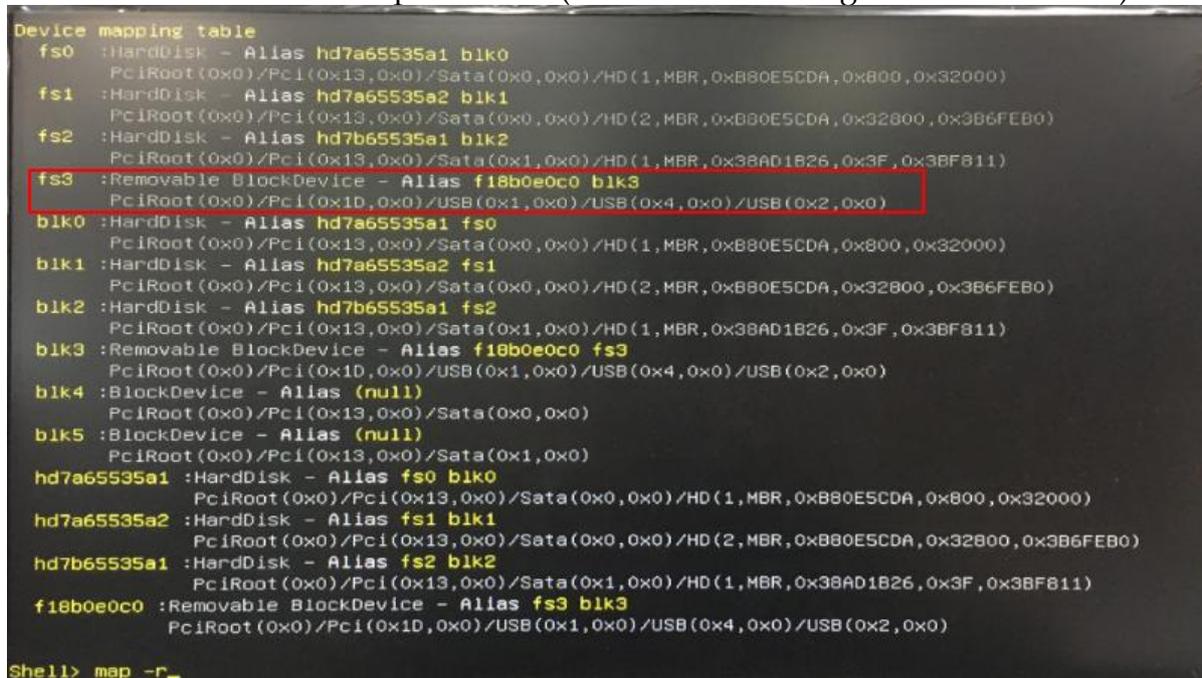
Step6. Type "fs3:" command to switch to the root of the USB pen drive. And type "dir" to find the directory of fs3.

Step7. Type the ″update″ command to start flash BIOS processes.

Step8. Press "Ctrl+Alt+Del" to reboot when it finish all update process.