

Rack Mount Panel PC

17"/ 19"/ 24" touchscreen, with Intel[®] Core i7 4650U 3.30GHz processor



Military Grade

Model No: R17IH3S-MLA1-89 R19IH3S-MLA3-89 W24IH3S-MLS1-89

User Manual

Version 1.0 Document Part Number: 91521111100U

Preface

Copyright Notice

No part of this document may be reproduced, copied, translated, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the prior written permission of the original manufacturer.

Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December). For example, the serial number 1W15Axxxxxxx means October of year 2015.

Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Detailed description of the problem
- The exact wording of error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Advisory Conventions

NOTE:

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.



A note is used to emphasize helpful information



IMPORTANT:

An important note indicates information that is important for you to know.



CAUTION/ ATTENTION

A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.

Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.



WARNING! / AVERTISSEMENT!

An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.

Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.



ALTERNATING CURRENT / MISE À LE TERRE!

The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.

Le symbole de Mise à Terre indique le risqué potential de choc électrique grave à la terre incorrecte.

Safety Information



WARNING! / AVERTISSEMENT!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces chassis.



CAUTION/ATTENTION

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

Safety Precautions

For your safety carefully read all the safety instructions before using the device. All cautions and warnings on the equipment should be noted. Keep this user manual for future reference.



CAUTION/ATTENTION

Do not cover the openings! Ne pas couvrir les ouvertures!

*Let service personnel to check the equipment in case any of the following problems appear:

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.
- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.



CAUTION/ATTENTION

Use the recommended mounting apparatus to avoid risk of injury.

Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.



WARNING! / AVERTISSEMENT!

Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.

Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vous doutez de leur provenance, contactez le manufacturier.



WARNING!/ AVERTISSEMENT!

Always ground yourself against electrostatic damage to the device.

Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

User Manual

Important Information

Countries/ Area	Symbol	This equipment complies with essential requirements of:
European		Electromagnetic Compatibility Directive(2014/30/EU)
UNION	((-	Low Voltage Directive (2014/35/EU)
* * * * * * *		Restrictions of the use of certain hazardous substances (RoHS) Directive (2011/65/EU)
USA	FC	FCC Part 15 Subpart B Regulations Class B

Federal Communications Commission Radio Frequency Interface Statement

This device complies with part 15 FCC rules.



- Operation is subject to the following two conditions:
- This device must accept any interference received including interference that may cause undesired operation.

This device may not cause harmful interference.

This equipment has been tested and found to comply with the limits for a class "A" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

European Union

CE

This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010 EN 55022: 2010 Class B
 - o IEC61000-4-2: 2009
 - IEC61000-4-3: 2006+A1: 2007+A2: 2010
 - o IEC61000-4-4: 2012
 - o IEC61000-4-5: 2014
 - o IEC61000-4-6: 2013
 - o IEC61000-4-8: 2010
 - o IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/30/EU)

• EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

Revision History

Version	Date	Note	Author
1.0	20-June-2016	Initial release	Tom Huang

Contents

Preface	ii
1 Introduction	
1.1 Product Features	13
1.2 Hardware Specifications	14
1.3 Software Support	15
1.4 Packing List	16
1.5 Appearance	17
1.5.1 Appearance	17
1.5.2 On-Screen Display Control	
1.6 Dimensions	19
1.6.1 Dimensions 17"	19
1.6.2 Dimensions 19"	20
1.6.3 Dimensions 24"	21
2 Getting Started	23
2.1 Powering On	23
2.1.1 Power Considerations	23
2.1.2 Connecting the Power	24
2.2 Connecting Other Devices	26
2.2.1 AC Power IN Connector	26
2.2.2 VGA Connector	27
2.2.3 RS-232 Connector	27
2.2.4 USB 2.0 A Type Connector	28
2.2.5 LAN Connector	
2.4 Turning ON /OFF	
3 Mounting Solutions	
3.1 Cable Mounting Considerations	
3.2 Safety Precautions	
3.3 Mounting Guide	
3.3.1 Console / Rack Mount	
3.3.2 VESA Mount	

4 Maintenance35
4.1 Cleaning the Display Screen
4.2 Cleaning the Casing
5 Driver Installation
5.1 Chipset Driver
5.2 Graphics Driver40
5.3 Audio Driver
5.4 Ethernet Driver
5.5 Intel [®] Management Engine Software48
5.6 USB 3.0 Driver Installation (Windows 7)52
6 BIOS Setup
6.1 How and When to Use BIOS Setup
6.2 BIOS Functions
6.2.1 Main Menu
6.2.2 Advanced Settings
6.2.3 Chipset Menu72
6.2.4 Boot Menu
6.2.5 Security Menu79
6.2.6 Save & Exit80
6.3 Using Recovery Wizard to Restore Computer82
7 Technical Support
7.1 Introduction
7.1.1 Winmate Download Center84
7.1.2 Winmate File Share84
7.2 Problem Report Form85
Appendix A MIL-STD-810F/G Compliance87
A1 MIL-STD-810F/G Compliance87
Appendix B MIL-STD-461E/F Compliance89
B1 MIL-STD-461E/F Compliance89

Introduction

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with the Panel PC in the packing list.



1 Introduction

Military Grade Panel PCs feature low power high performance CPU with fanless design. Anti-corrosive coating with aluminum alloy housing withstands the harshest military environments. Armored connectors MIL-DTL-38999 (type I and III) initially developed for aerospace industry perfectly fit in our Military grade product line.

Withstanding rigors of harsh environments and tough weather conditions these Panel PCs meet the most demanding requirements. Suitable for Army Headquarters and being connected to mobile devices on the field Panel PC can provide up-to-date information for immediate commands.

1.1 Product Features

Military Grade Rack Mount Panel PCs offer the following features:

- Intel[®] Core i7 4650U 3.30GHz processor.
- Fanless, streamlined enclosure for highly efficient heat dissipation.
- Aluminum housing with anti-corrosive coating.
- 5-wire resistive touch.
- Convenient on-screen display control.
- Built-in Light Sensor for auto brightness control.
- AC 110~240V Power input (default) with isolation DC 9~36V (Optional).
- Flush Rack / Rack Mount mechanical design (8U).
- Military Grade connectors (MIL-DTL-38999/1 and 38999/3).
- Compliance with military standard MIL-STD-810G/F.





1.2 Hardware Specifications

	Model Name				
	R17IH3S-MLA1-89	W24IH3S-MLS1-89			
Display:					
Size	17"	19"	24"		
Resolution	1280 x 1024	1280 x 1024	1920 x 1200		
Brightness	350 cd/m ² (typ.)	350 cd/m ² (typ.)	300 cd/m ² (typ.)		
Contrast Ratio	1000:1 (typ.)	1000:1 (typ.)	1000:1 (typ.)		
Viewing Angle	-85~85(H);-80~80(V)	-85~85(H);-80~80(V)	-89~89(H);-89~89(V)		
Display colors		16.7M (colors)			
System:					
Processor	Intel [®] Core™ i7 4650U 3.3	0GHz			
BIOS	AMI 16Mbit Flash				
System Memory	1 x SO-DIMM DDR3L 1600	(default 4GB)			
System Chipset	Intel [®] HD Graphics 5000				
Storage	mSATA SSD (default 64GB)			
LAN Controller	Intel [®] Ethernet Controller	1211-AT + Intel [®] Gigabit E	therne PHY 1218-LM		
Evenning Clat	1 x Mini PCIe slot (for USB	module)			
Expansion Slot *For PCI expansion customized housing required.					
Input/ Output:					
Plug & Play	VESA DDC 1/2B				
	1 x Power Input (MIL-DTL-38999/1)				
Back panel I/O	1 x VGA (MIL-DTL-38999/3)				
ports	1 x RS232 (MIL-DTL-38999/3)				
		1L-38999/3)			
Environment and Mechanical:					
Environment and iv					
Operating	-20°C to +60°C				
Operating					
Humidity	95%RH ±3%				
Power Specification	IS:				
Devee la suit	Default AC 110~240V IN				
Power Input	Optional isolation DC 9~36V IN				
Ordering Information (optional):					
Touch	5-wire resistive / 5-wire resistive with EMI coating				
Glass	EMI coating glass (default AR glass)				
Storage	mSATA SSD up to 256GB				
RAM	SO-DIMM DDR3 1666, up to 8GB				
Power	Optional isolation 9~36V	DC IN			
	Windows 10 IoT Enterprise	е			
05	Windows Embedded 8.1 I	ndustry			
US	Windows Embedded 8 Standard				
	Windows Embedded Standard 7				

1.3 Software Support

Winmate provide all necessary drivers and Software Development Kit (SDK).

Drivers:
Chipset Driver
Graphics Driver
Audio Driver
Ethernet Driver
Intel [®] Management Engine Software
USB 3.0 Driver (for Windows 7)
SDK:
Watchdog SDK

1.4 Packing List

Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:



1.5 Appearance

This section includes appearance and input/ output connectors' layout.

1.5.1 Appearance



1.5.2 On-Screen Display Control

On-Screen Display (OSD) is a user-friendly interface to remote the display function and to adjust the display's image properties. It also supports special Hot Keys for easy control, such as auto-adjustment and brightness control for backlight.

1.5.2.1 Control Keys



lcon	Button	Function
0	Power	Turn ON or turn OFF the Panel PC.
٠.	Brightness DOWN	Decrease the brightness of the display screen, or allows user to navigate items of a single OSD menu.
	Brightness UP	Increase the brightness of the display screen, or allows user to navigate items of a single OSD menu.
C	Night	Tap this button to enter NIGHT MODE to increase visibility in low-light conditions.
	Day	Tap this button to enter DAY MODE.
A	Auto/ Manual	Tap the button once to AUTOMATICALLY adjust brightness mode. Press the button again to MANUALLY adjust brightness mode.
\bigcirc	Reset	Clear any pending errors or events and brings a system to normal condition or an initial state.
\bigcirc	LOCK	Tap this button to lock the function of OSD panel.

1.5.2.2 LED Indicators

Indicator	Colo	or	Definition
PWR	Green		Power is ON and the device functions normally
	Orange		Panel PC is suspended
HDD	Green		HDD is active
	OFF		HDD is inactive
LOCK	Red		The function of OSD buttons is locked
	OFF		Lock function disabled

1.6 Dimensions

This section includes mechanical drawing and dimensions of Panel PCs.

1.6.1 Dimensions **17**"



*Measurements shown in mm.

- **Tolerance of all dimensions is shown as follow 0~30 mm ± 0.1 mm, 30~50 mm ± 0.15 mm, 50~120 mm ± 0.2 mm, above 120 mm ± 0.25 mm.
- ***Note: this is a simplified drawing and some components are not marked in detail.

1.6.2 Dimensions 19"



*Measurements shown in mm.

- **Tolerance of all dimensions is shown as follow 0~30 mm ± 0.1 mm, 30~50 mm ± 0.15 mm, 50~120 mm ± 0.2 mm, above 120 mm ± 0.25 mm.
- ***Note: this is a simplified drawing and some components are not marked in detail.

1.6.3 Dimensions 24"



*Measurements shown in mm.

**Tolerance of all dimensions is shown as follow 0~30 mm ± 0.1 mm, 30~50 mm ± 0.15 mm, 50~120 mm ± 0.2 mm, above 120 mm ± 0.25 mm.

***Note: this is a simplified drawing and some components are not marked in detail.

2

Getting Started

This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.

User Manual

2 Getting Started

This chapter provides information on how to connect the device to the source of power, connector pinouts and the guideline to turn on/off the Panel PC.

2.1 Powering On

2.1.1 Power Considerations

The device operates on external DC power.



ALTERNATING CURRENT / MISE À LE TERRE!

This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.

*If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.

Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre. Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.

*Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.

- Plug-in the power cord to easy accessible AC outlet.
- Plug-in the AC adapter to a grounded outlet.

2.1.2 Connecting the Power

2.1.2.1 Connecting to AC Input Power Source

- 1. Connect one end of the Military Grade power connector MIL-DTL-38999/1 to the Panel PC.
- 2. Plug the other end of the power connector in to a working AC outlet.



WARNING!/ AVERTISSEMENT!

Serious injury due to shock is possible if unit is wired incorrectly or connected to voltage exceeding the input voltage range.

Des blessures graves en raison du choc est possible si l'unité est mal câblé ou connecté à la tension maximale de la plage de tension d'entrée.



ſ		
	-	1
L		٦

Note:

Power cords vary in appearance by region and country.

AC Power Requirements

AC Input	115~230V AC 50-60Hz	
Voltage Range	100~240V AC 47-63Hz	
Power Rating	100W Max	

2.1.2.2 Connecting to DC Input Power Source

1. Insert the exposed wires of the DC Power Cable to the appropriate connectors on the terminal block plug.

Δ	
•	

CAUTION/ ATTENTION

Make sure that the polarization of the power lines is correct and complete including earth ground and PE.

Assurez-vous que la polarisation des lignes électriques est correcte et complète, y compris la terre et le PE.



- 2. Plug the terminal block plug firmly to the DC IN Jack.
- 3. Connect the other end of the DC power cable (wires with lug terminals that are labeled + and to the terminals of the 9-36V DC Power Source). Ensure that the power connections maintain the proper polarity.

DC Power Requirements

DC Input	9-36V DC IN
Voltage Range	9-36V DC IN
Power Rating	100W Max

2.2 Connecting Other Devices

Note that all the connectors are military grade and comply with military standard. The pin assignment of the cables are as follows.





WARNING!/ AVERTISSEMENT!

Make sure the power is off when connecting and disconnecting the connectors.

Assurez-vous que l'alimentation est coupée lors de la connexion et la déconnexion des connecteurs.

2.2.1 AC Power IN Connector

Connect one end of the Military Grade power connector MIL-DTL-38999/1 to the Panel PC (CN2), and the other end of connector to the power source (CN1).



	Pin №	Name
Ô	А	VCC+
BO OC	В	VCC-
	С	GND

Note:

*Power cable shown at the picture above is for the U.S.A and North America. **Power cables vary in appearance by region and country. Your package includes power cable based on your order.

2.2.2 VGA Connector

Plug one end of the 15-pin D-Sub signal cable (CN1) to the video signal MIL-DTL-38999/3 connector at the rear of the PC system and the other end (CN2) to the display.





Pin №	Name	Pin №	Name
1	RED	2	GREEN
3	BLUE	4	ID2/RES
5	GND	6	RED_RTN
7	GREEN_RTN	8	BLUE_RTN
9	KEY/PWR	10	GND
11	ID0/RES	12	ID1/SDA
13	HSync	14	VSync
15	ID3/SCL		

2.2.3 RS-232 Connector

Connect one side of the serial port cable to the MIL-DTL-38999/3 RS-232 connector on the Panel PC (CN1) and the other side to Serial COM interface (CN2).





Pin №	Name	Pin №	Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

2.2.4 USB 2.0 A Type Connector

Connect USB 2.0 A type MIL-DTL-38999/3 connector to the external USB 2.0 compatible device, for example mouse or keyboard.



2.2.5 LAN Connector

Pin №	Name	Pin №	Name
1	+5V	2	Data-
3	Data+	4	GND

Connect Ethernet MIL-DTL-38999/3 connector to Ethernet interface.





Pin №	Name	Pin №	Name
1	RD+	2	RD-
3	TD+	4	NC
5	NC	6	TD-
7	NC	8	NC

2.4 Turning ON /OFF

To Turn ON the Panel PC:

- 1. Tap the power button to turn the Panel PC on.
- 2. Press "DEL" to enter the CMOS setting and check the BIOS setup.

The Power Switch is located on the front side OSD panel.



You can **Turn OFF** the device with the Windows power settings.

To shut down the device:



> Shut down.

2. Wait for your device to completely turn off before disconnecting the power cord (if necessary).

Mounting Solutions

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.



3 Mounting Solutions

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.



CAUTION/ ATTENTION

Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

3.1 Cable Mounting Considerations

For a nice look and safe installation, make sure cables are neatly hidden behind the device.



CAUTION/ ATTENTION

Observe all local installation requirements for connection cable type and protection level.

Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.



CAUTION/ ATTENTION

Turn off the device and disconnect other peripherals before installation.

Éteindre l'appareil et débrancher tous les périphériques avant l'installation.



ALTERNATING CURRENT / MISE À LE TERRE!

To prevent electrical shock, the Safety Ground location on the rear must be bonded to the local earth ground through a minimum 12 AWG wire as short as possible.

Pour éviter les chocs électriques, l'emplacement de la prise terre à l'arrière doit être lié à terre locale, à travers un 12 AWG minimum et aussi court que possible.

3.2 Safety Precautions

Observe the following common safety precautions before installing any electronic device:

•Use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must be crossed make sure the wires are perpendicular at the intersection point.

•Keep the wires separated according to the interface. Wires that share similar electrical characteristics must be bundled together.

• Do not bundle input wiring with output wiring. Keep them separate.

When necessary, it is strongly advised that you label wiring to all devices in the system.

3.3 Mounting Guide

Military Grade Panel PC comes with different mounting options suitable for most of the industrial and commercial applications. The main mounting approach is rack mount - very user-friendly in terms of installation. Refer to sub-sections below for more details.

3.3.1 Console / Rack Mount

Cutout dimensions (W x D in mm)				
17" 19" 24"				
450 x 335	450 x 380	557 x 386		
Screws				
M6 truss head (4 pcs)				



Mounting Steps:

- 1. Prepare a fixture for the specific dimensions of the device.
- 2. Cut a hole on a sub frame or panel according to the cutout dimensions.
- 3. Install the device properly onto the cutout area of the sub frame or panel with the sides of the front bezel.
- 4. Fix the device from the outside to the fixture with four M6 truss head screws.

ſ	Ν
	Ν
	la la

IOTE:

Make sure that the eight holes on gasket can fit in the mounting holes on the device.

3.3.2 VESA Mount

Tools Needed			
VESA Plate	Screws	Metal Nuts	
100 x 100 mm	4 x VESA M4 truss head screws	4 x VESA M4 mounting nuts	



NOTE:

VESA Plate is not included in Winmate's standard accessories package.

Mounting Steps:

1. Locate the four mounting nuts at the back of the Panel PC.



2. Align the VESA plate to the four mounting nuts, placing the spacers between the VESA plate and the mounting nuts.

3. Using a spanner, insert the bolts through the VESA plate and spacers, tightly securing the bolts to the mounting nuts.



4. Continue with the instructions provided with your VESA-compatible wall bracket (not supplied by Winmate).

Maintenance

This chapter provides information on regular cleaning and maintenance procedures. Follow all the recommendations included in this chapter in order to ensure long product lifecycle.



4 Maintenance

This chapter includes regular cleaning and maintenance procedures. Follow all the recommendations in this chapter in order to ensure long product lifecycle.

This equipment is extremely rugged and does not require a lot of maintenance. Remember that electrical equipment should be handled with care and used accordingly to its specifications.

4.1 Cleaning the Display Screen

- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles. Do not use acetone, ethyl alcohol, toluene, ethyl acid or methyl chloride to clear the panel. It may permanently damage the display screen.
- You can apply a small amount of non-ammonia; non-alcohol based glass cleaner onto a clean, soft, lint-free cloth and wipe the screen.
- Never spray or pour any liquid directly on the screen or case.
- **Do Not** use water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

4.2 Cleaning the Casing

Use the following procedure to clean the equipment.



CAUTION/ ATTENTION

Always turn off the device and disconnect other peripherals before cleaning and maintenance procedures.

Toujours éteindre l'appareil et débrancher tous les périphériques avant que les procédures de nettoyage et d'entretien.

Before Cleaning:

- Make sure the device is turned off.
- Disconnect the power cable from any AC outlet.

When Cleaning:

- Wipe dust off the outside casing with a cloth slightly moistened with water or mild ammonia-based cleaning solution. Do not use this cloth on a display screen!
- Do not use an abrasive cleaner or high pressure washer on the screen.
- Do not rub the unit with a dry cloth. This action can result in a static charge being built up and cause a spark. Always use damp cloth while cleaning the unit.



WARNING!/ AVERTISSEMENT!

POTENTIAL ELECTROSTATIC CHARGE HAZARD – SEE INSTRUCTIONS

POTENTIEL ÉLECTROSTATIQUE CHARGE DANGER - VOIR INSTRUCTIONS

Driver Installation

This chapter describes how to install all necessary drivers.


5 Driver Installation

This chapter provides guideline to driver installation.

5.1 Chipset Driver

The Intel Chipset Drivers should be installed first before the software drivers enable Plug & Play INF support for Intel chipset components. Follow the instructions below to complete the installation.

Step 1 Insert the CD that comes with the motherboard. Open the file document "Chipset Driver" and click "Setup.exe" to install driver.

🙀 Favorites	Name	Date modified	Туре	Size
📃 Desktop	📕 All	10/6/2014 3:14 PM	File folder	
\rm Downloads	🍌 ia64	10/6/2014 3:13 PM	File folder	
🔛 Recent places	鷆 Lang	10/6/2014 3:13 PM	File folder	
	🍌 WIN7	10/6/2014 3:13 PM	File folder	
📙 Libraries	🍌 x64	10/6/2014 3:13 PM	File folder	
Documents	SVer.dll	8/5/2013 11:50 AM	Application extens	52 KB
🛛 🁌 Music	🚳 difxapi.dll	5/10/2012 12:34 PM	Application extens	316 KB
Pictures	🛃 Help	9/15/2006 10:10 AM	Text Document	1 KB
Videos	🗿 IIF2	2/12/2008 2:26 PM	Configuration sett	1 KB
	IIF2v	6/11/2013 3:45 PM	Configuration sett	472 KB
🖳 Computer	📋 mup	8/5/2013 11:50 AM	XML File	158 KB
ا 🕌 Local Disk (C:)	📕 readme	8/5/2013 11:49 AM	Text Document	94 KB
) 👝 PK (D:)	🔜 Setup	12/23/2013 5:09 PM	Application	936 KB

Step 2 Click "Next" to start the installation.



Step 3 Click "Next" to continue the installation.

Intel® Chipset Device So Setup Progress	tware (ntel
Please wait while the following setup operation	s are performed:	
Installing Driver: Intel(R) 8 Series SATA AHCI Version: 9.4.0.1023 Installing Driver: Intel(R) 8 Series PCI Express Version: 9.4.0.1023 Installing Driver: Intel(R) 8 Series LPC Control Version: 9.4.0.1023 Installing Driver: Intel(R) 8 Series SMBus Cont Version: 9.4.0.1023 Installing Driver: Intel(R) 8 Series USB Enhanc Version: 9.4.0.1025	Controller - 9C03 Root Port #1 - 9C10 er (Premium SKU) - 9C43 oller - 9C22 ed Host Controller #1 - 9C26	^

Step 4 Click "Yes, I want to restart this computer now" to finish installation.



5.2 Graphics Driver

You need to install the Graphic driver to enable the function. Intel Graphic supports versatile display options and 32-bit 3D graphics engine. Triple independent display, enhanced display modes for widescreen flat panels for extend, twin, and clone display mode.

Step 1 Insert the driver CD into your system's CD-ROM drive. You can see the driver folders items. Navigate to the "Graphic Driver" folder and click "setup.exe" to complete the installation.

🚯 l 🔁 🚯 🗢 l	Graphics	_V10.18.10.3379		- 🗆 🗙
File Home Share	View			~ 🕜
€ 🤿 ▾ ↑ 퉬 « PK (D:) ▶ IH70 ▶ Driver ▶ Graphics_V	10.18.10.3379 🗸 🖒	Search Graphics_	V10.18.10.3379 🔎
7X 10X 1	Name DisplayAudio Graphics ICCS Lang X64 autorun DIFxAPI.dll Installation_Readme mup Readme Setup Setup.if2	Date modified 10/6/2014 3:16 PM 10/6/2014 3:16 PM 10/6/2014 3:16 PM 10/6/2014 3:14 PM 10/6/2014 3:14 PM 10/6/2014 3:14 PM 12/18/2013 1:02 PM 11/2/2006 7:21 AM 12/23/2013 6:43 PM 12/18/2013 1:02 PM 12/23/2013 2:04 PM 12/18/2013 1:02 PM 12/18/2013 1:02 PM 12/18/2013 1:02 PM	Type File folder File folder File folder File folder Setup Information Application extens Text Document XML File Text Document Application IF2 File	Size 1 KB 312 KB 70 KB 12 KB 6 KB 976 KB 13 KB
12 items				





Step 3 Click "Yes" to agree with the license terms.

inter-	Installation Framework	>
ntel® Graphics Driver		(intel)
You must accept all of the terms of the program. Do you accept the terms?	ne license agreement in order to co	ntinue the setup
INTEL SOFTWARE LICENSE AGREEM IMPORTANT - READ BEFORE COPYIN Do not use or load this software and until you have carefully read the folly Software, you agree to the terms of	ENT (OEM / IHV / ISV Distribution 8 NG, INSTALLING OR USING. any associated materials (collectiv owing terms and conditions. By load this Agreement. If you do not wid	ely, the "Software")
Please Also Note: * If you are an Original Equipment M (IHV), or Independent Software Ven * If you are an End-User, then only	anufacturer (OEM), Independent H dor (ISV), this complete LICENSE A Exhibit A, the INTEL SOFTWARE LI	Hardware Vendor GREEMENT applies; CENSE AGREEMENT, ✓

Step 4 Click "Next" to install the driver.

Intel® Install	lation Framewo	rk	×
ntel® Graphics Driver			
Readme File Information		((intel)
Refer to the Readme file below to view the sy	stem requirements a	nd installation i	nformation.
README FILE			^
Release Version: Production Version			
Driver Version: 15.33.11.64.3379			
Operating System(s):			
Microsoft Windows* 8 64 Microsoft Windows* 8.1 64			Ŷ
	< Back	Next >	Cancel
		— Intel® Inst	allation Frame

Step 5 Click "Yes, I want to restart this computer now" to finish installation.

Intel® Installation Framework	- 🗆 ×
Intel® Graphics Driver	\sim
Setup Is Complete	(intel)
You must restart this computer for the changes to take effect. Would you computer now?	ike to restart the
• Yes, I want to restart this computer now. No, I will restart this computer later.	
Click Finish, then remove any installation media from the drives.	
Intel	Finish ® Installation Framework

5.3 Audio Driver

The ALC886 series are high-performance 7.1+2 Channel High Definition Audio Codecs providing ten DAC channels that simultaneously support 7.1 sound playbacks, plus 2 channels of independent stereo sound output (multiple streaming) through the front panel stereo outputs. The series integrates two stereo ADCs that can support a stereo microphone, and feature Acoustic Echo Cancellation (AEC), Beam Forming (BF), and Noise Suppression (NS) technology.

You must confirm which operating system is running on the IH32 Motherboard before installing the Audio drivers. Follow the steps below to complete the installation of the Realtek ALC886 Audio drivers. You will quickly complete the installation.

Step 1 Insert the CD that comes with the motherboard. Open the folder "Audio Driver" and click on "Audio" (64bit_Vista_Win7_Win8_R271) to execute the setup.



Step 3 Click "Yes, I want to restart my computer now" to finish the installation.

R	ealtek High Definition Audio Driver Setup (3.65) R2.71
	Uninstall Complete InstallShield Wizard has finished uninstalling Realtek High Definition Audio Driver. Realtek, audio driver has been uninstalled. If you want to re-install the Realtek audio driver, please restart the computer. Realtek setup program will install audio driver automatically after reboot. • Yes, I want to restart my computer now. • Yes, I want to restart my computer later. InstallShield Wizard has finished uninstalling Realtek. High Definition Audio Driver. To complete the uninstallation, you must restart your computer.
InstallShield	< <u>B</u> ack Finish Cancel

5.4 Ethernet Driver

You must confirm which operating system is used on the IH32 Motherboard before installing the Ethernet drivers. Follow the steps below to complete the installation of the Intel[®] I210IT Gigabit-LAN Controller + I218LM Gigabit-LAN drivers. You will quickly complete the installation.

Step 1 Insert the driver CD and select the "LAN Driver" folder.

Name	*	Date modified	Туре	Size
ROWinx6	4_19.0	3/27/2014 5:27 PM	Application	32,522 KB
MB				

Step 2 Extract the "PROWinX64_19.0" file and click "Next" to install the driver.

退	Intel(R) Network Connections Install Wizard	×
Welcon Networ	ne to the install wizard for Intel(R) k Connections	(intel)
	Installs drivers, Intel(R) Network Connections, and Advanced Networking Services.	
	WARNING: This program is protected by copyright law and international treaties.	
	< Back Next >	Cancel

Step 3 Click "Next" to agree with the license terms.

	Intel(R) Netwo	ork Connections I	Install Wizard	×
License A Please re	Igreement ead the following license ag	reement carefully.		(intel)
	INTEL SOFTV	VARE LICENSE AGR	EEMENT	^
1	IMPORTANT - READ BEF	ORE COPYING, INS	TALLING OR USIN	IG.
Do not coj (collective ("Agreem	py, install, or use this se ely, the "Software") pro ent") until you have car	oftware and any ass vided under this lice refully read the follo	sociated materia ense agreement wing terms and o	ls conditions.
By copyin	g, installing, or otherwis	se using the Softwa	ire, you agree to	be bound by
By copyin the terms	g, installing, or otherwis of this Agreement. If yo	se using the Softwa ou do not agree to the	ire, you agree to l he terms of this A	be bound by Agreement, 🗸
By copyin the terms I accept	g, installing, or otherwis of this Agreement. If you install, or use the So the terms in the license agr	se using the Softwa ou do not agree to th fituare eement	ire, you agree to l he terms of this A	be bound by Agreement,
By copyin the terms I accept I accept	g, installing, or otherwis of this Agreement. If you install, as use the So the terms in the license agr accept the terms in the licen	se using the Softwa ou do not agree to the fluctor eement nse agreement	ire, you agree to l he terms of this A	be bound by Agreement, Print

Step 4 Click "Next" to install the driver.

Intel(R)	Network Conne	ctions	×
Setup Options Select the program features you wa	nt installed.		(intel)
Install:			
✓ Intel(R) PROSet for Windows* D ✓ Advanced Network Services ✓ Windows* PowerShell Modu	Device Manager ; le		
Feature Description	NMP Agent		
Feature Description Enables sending event notices using Si Requires that the Microsoft SNMP Serv	NMP Agent imple Network Manag vice be installed.	ement Protocol (SN	IMP).

Step 5 Click "Finish" to complete the driver installation.

退	Intel(R) Network Connections Install Wizard	×
Install	wizard Completed	(intel)
	To access new features, open Device Manager, and view the properties of the network adapters.	
	< Back Finish	Cancel

5.5 Intel[®] Management Engine Software

This installation program installs the Intel[®] ME software components required for the platform on which you are installing, and installs only those components that match your platform's capabilities.

Name	▼ Date modified	Туре	Size
\rm DAL	10/6/2014 3:17 PM	File folder	
🌡 Drivers	10/6/2014 3:17 PM	File folder	
Firmware Recovery Agent	10/6/2014 3:16 PM	File folder	
IFR IFR	10/6/2014 3:16 PM	File folder	
📙 Intel Control Center	10/6/2014 3:16 PM	File folder	
📕 IntelMEFWVER	10/6/2014 3:16 PM	File folder	
🔰 IUS	10/6/2014 3:16 PM	File folder	
퉲 Lang	10/6/2014 3:16 PM	File folder	
🍌 LMS	10/6/2014 3:16 PM	File folder	
NAC_PP	10/6/2014 3:16 PM	File folder	
🍶 хб4	10/6/2014 3:16 PM	File folder	
autorun	8/8/2013 1:25 PM	Setup Information	1 KB
S DIFxAPI.dll	8/8/2013 1:25 PM	Application extens	312 KB
📋 mup	8/8/2013 1:25 PM	XML File	9 KB
👪 Setup	8/8/2013 1:25 PM	Application	966 KB
Setup.if2	8/8/2013 1:25 PM	IF2 File	24 KB
version	8/8/2013 1:25 PM	Configuration sett	1 KB

Step 1 Insert the driver CD and select the "Intel ME 10.0" folder and click "Setup.exe"	Step 1	l Insert the driver	CD and select the	"Intel ME 10.0"	' folder and click	"Setup.exe"
---	--------	---------------------	-------------------	-----------------	--------------------	-------------

Step 2 Click "Next" to continue the installation.



Step 3 Click "Yes" to agree with the License terms.

Intel® Install	ation Framewo	ork	×
Intel® Management Engine (License Agreement	Components		(intel)
You must accept all of the terms of the license program. Do you accept the terms?	agreement in order	to continue th	e setup
INTEL SOFTWARE LICENSE AGREEMENT (OEM IMPORTANT - READ BEFORE COPYING, INST/ Do not use or load this software and any asso until you have carefully read the following term Software, you agree to the terms of this Agree install or use the Software. Please Also Note: * If you are an Original Equipment Manufacture	1 / IHV / ISV Distribu ALLING OR USING. ociated materials (co ms and conditions. E eement. If you do no rer (OEM). Independ	tion & Single U llectively, the ' ly loading or us ot wish to so ag	ser) Software") sing the gree, do not Vendor
(IHV), or Independent Software Vendor (ISV) * If you are an End-User, then only Exhibit A,	, this complete LICE the INTEL SOFTWA	NSE AGREEMEI RE LICENSE A	NT applies; GREEMENT, Y
	< Back	res — Intel® Ins	tallation Framewo

Step 4 Choose "I accept the terms of the license agreement", and click "Next" to continue.

ease carefully re	ad the following license agreement.	
INTEL SOFTWA	ARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)	3
IMPORTANT - Do not use or read the follow If you do not y	READ BEFORE COPYING, INSTALLING OR USING. oad this software and any associated materials (collectively, the "Software") until you have carefully ing terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. vish to so agree, do not install or use the Software.	1000
Please Also No * If you are an Software Vend * If you are an	te: Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent or (ISV), this complete LICENSE AGREEMENT applies; End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, applies.	
For OEMs, IHV	s, and ISVs:	
LICENSE. This conjunction wi Intel grants to a) use, modify b) modify, cop under a license Agreement, att c) modify, cop	Software is licensed for use only in conjunction with Intel component products. Use of the Software in th non-Intel component products is not licensed hereunder. Subject to the terms of this Agreement, you a nonexclusive, nontransferable, worldwide, fully paid-up license under Intel's copyrights to: and copy Software internally for your own development and maintenance purposes; and y and distribute Software, including derivative works of the Software, to your end-users, but only agreement with terms at least as restrictive as those contained in Intel's Final, Single User License ached as Exhibit A; and y and distribute the end-user documentation which may accompany the Software, but only in	2
I accept the terr	ns on the license agreement.	vt
I do not accept f	he terms on the license agreement.	xt.

Step 5 Click "Finish" to complete the software installation.



5.6 USB 3.0 Driver Installation (Windows 7)

٢	
L	

NOTE:

If the operating system of your device is Windows 10 IoT, Windows Embedded 8.1 Industry, Windows Embedded 8 Standard, users can skip this installation.

Step 1 Locate the hard drive directory where the driver files are stored with the browser or the explore feature of Windows*.

Step 2 Double-click the "Setup.exe" from this directory.



Step 4 Read the License Agreement and click "Yes" to proceed.

Intel® Installation Framework	- 0 🔀
Intel® USB 3.0 eXtensible Host Controller	Driver
License Agreement	(intel)
You must accept all of the terms of the license agreement in order to program. Do you accept the terms?	o continue the setup
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load this software and any associated materials (colle until you have carefully read the following terms and conditions. By Software, you agree to the terms of this Agreement. If you do not install or use the Software.	on & Single User)
Please Also Note: * If you are an Original Equipment Manufacturer (OEM), Independe (IHV), or Independent Software Vendor (ISV), this complete LICENS * If you are an End-User, then only Exhibit A, the INTEL SOFTWAR C Back	ent Hardware Vendor SE AGREEMENT applies; E LICENSE AGREEMENT, Yes No
	- Intel® Installation Framework

Ste	o 5	Review	Readme	File	Information	and	click	"Next"	to p	roceed
-----	-----	--------	--------	------	-------------	-----	-------	--------	------	--------

ntel® Installation Framework		
Intel® USB 3.0 eXtensible	Host Controller Driver	
Readme File Information		(intel)
Refer to the Readme file below to view th	ne system requirements and installatio	n information.
***** WARNING ***** Do not run this driver's installer (Setup.e device (ie. external USB hard drive or US installation, please copy driver files to a l and run from there.	xe) from a USB storage 8 thumb drive). For proper ocal hard drive folder	Î
**************************************	*********	
* * Microsoft Windows* 7 *		-
	< Back Next >	Cancel
		stallation Framewor

Step 6 When the Setup Progress is complete click "Next" to proceed.

Intells Inclalizion Francework	
Intel® USB 3.0 eXtensible Host Controlle	er Driver
Setup Progress	
Please wait while the following setup operations are performed:	
Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXter Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXter	nsible Host Controller Driver \A nsible Host Controller Driver \A
Click Next to continue.	*
< III	+
Intel® Installation Francework	
Intel [®] USB 3.0 eXtensible Host Control	ler Driver
	(intel)
Setup Progress	
Setup Progress Please wait while the following setup operations are performed:	
Setup Progress Please wait while the following setup operations are performed: Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Windows\SysWOW64\difxapi.dll Copying File: C:\Windows\system32\difxapi.dll Creating Process: C:\Windows\system32\wevtutil.exe Creating Process: C:\Windows\system32\wevtutil.exe Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Distalling Driver: iusb3hub.inf	ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u
Setup Progress Please wait while the following setup operations are performed: Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Windows\System32\difxapi.dll Copying File: C:\Windows\system32\difxapi.dll Creating Process: C:\Windows\system32\wevtutil.exe Creating Process: C:\Windows\system32\wevtutil.exe Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Program Files (x86)\Intel\Intel\Intel(R) USB 3.0 e	ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\D
Setup Progress Please wait while the following setup operations are performed: Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXth Copying File: C:\Windows\SysWOW64\difxapi.dll Copying File: C:\Windows\System32\difxapi.dll Creating Process: C:\Windows\system32\wevtutil.exe Creating Process: C:\Windows\system32\wevtutil.exe Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXth Copying File: C:\Program Files (x86)\Intel\Intel(R)	ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\u ensible Host Controller Driver\D ensible Host Controller Driver\D
Setup Progress Please wait while the following setup operations are performed: Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Windows\SysWOW64\difxapi.dll Copying File: C:\Windows\system32\difxapi.dll Creating Process: C:\Windows\system32\wevtutil.exe Creating Process: C:\Windows\system32\wevtutil.exe Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Copying File: C:\Program Files (x86)\Intel\Intel(R) USB 3.0 eXt Unstalling Driver: iusb3hub.inf Version: 3.0.0.19	ensible Host Controller Driver \u ensible Host Controller Driver \u

Step 7 Click "Yes, I want to restart this computer now" to finish and then restart your computer.

Intel® USB 3.0 eXtensible Host Controller Driver	Intel® Installation Framework	
Setup Is Complete	Intel® USB 3.0 eXtensible Host Controller Driver	
	Setup Is Complete	(intel)
You must restart this computer for the changes to take effect. Would you like to restart the computer now?	You must restart this computer for the changes to take effect. Would you like to computer now?	to restart the
Yes, I want to restart this computer now.	Yes, I want to restart this computer now.	
No, I will restart this computer later.	○ No, I will restart this computer later.	
Click Finish, then remove any installation media from the drives.	Click Finish, then remove any installation media from the drives.	Finish
Intel® Installation Framework	Intel® In	nstallation Framework

BIOS Setup

BIOS Setup Utility is a program for configuration basic Input / Output system settings of the Panel PC for optimum use. This chapter provides information on how to use BIOS setup, its functions and menu.



5

6 BIOS Setup

6.1 How and When to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard, press Del key when the prompt appears on the screen during start up. The prompt screen shows only few seconds so need press Del key quickly.



IMPORTANT:

Updated BIOS version may be published after the manual released. Check the latest version of BIOS on the website.

You may need to run BIOS setup utility for reasons listed below:

- 1. Error message on screen indicates to check BIOS setup
- 2. Restoring the factory default settings.
- 3. Modifying the specific hardware specifications
- 4. Necessity to optimize specifications

BIOS Navigation Keys

The following keys are enabled during POST:

Кеу	Function
Del	Enters the BIOS setup menu.
F7	Display the boot menu. Lists all bootable devices that are connected to the system. With cursor \uparrow and cursor \downarrow and by pressing <enter>, select the device used for the boot.</enter>
Pause	Pressing the [Pause] key stops the POST. Press any other key to resume the POST.

The following Keys can be used after entering the BIOS Setup.

Кеу	Function
F1	General Help
F2	Previous Values
F3	Optimized Defaults
F4	Save & Exit
Esc	Exit
+/-	Change Opt.
Enter	Select or execute command
Cursor ↑	Moves to the previous item
Cursor 🗸	Goes to the next item
Cursor ←	Moves to the previous item
Cursor \rightarrow	Goes to the next item



You can press the F1, F2, F3, F4, -/+, and Esc keys by connecting a USB keyboard to your computer.

NOTE:

6.2 BIOS Functions

The IH32 motherboard has AMI BIOS built-in and a CMOS SETUP utility that allow users to configure required settings or to activate certain system features. The following sections describe the configuration options found in the menu items.

6.2.1 Main Menu

The Main menu displays the basic information about yoursystem including BIOS version, processor RC version, system language, time, and date.

When you enter BIOS setup, the first menu that appears on the screen is the main menu. It contains the system information including BIOS version, processor RC version, system language, time, and date.

Main Advanced Chipset Bo	Aptio Setup Utility – Copyright (C) 2014 American M ot Security Save & Exit	egatrends, Inc.
BIDS Information BIDS Vendor Core Version Compliancy Project Version Build Date and Time	American Megatrends 4.6.5.4 UEFI 2.3.1; PI 1.2 IH32 V002 x64 11/05/2014 11:30:22	▲ Choose the system default language
Processor Information Name Brand String Frequency Processor ID Stepping Number of Processors Microcode Revision GT Info	Haswell ULT Intel(R) Core(TM) 15-4200U CPU @ 1.60GHz 1600 MHz 40651 CO 2Core(s) / 4Thread(s) 17 GT2 (400 MHz)	
IGFX VBIOS Version Memory RC Version Total Memory Memory Frequency	2180 1.6.2.1 4096 MB (DDR3) 1600 Mhz	++: Select Screen 14: Select Item Enter: Select 4/-: Change Ont
PCH Information Name PCH SKU Stepping	LynxPoint-LP Premium SKU 04/B2	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
ME FW Version ME Firmware SKU System Language	5.5.13.1706 SMB [English]	ESC: Exit
System Date System Time	[Wed 01/01/2014] [00:00:00]	
Access Level	Administrator	•

BIOS Setting	Description	Setting Option	Effect
System	Displays the system	Adjustment of the	Set the language in
Language	language. [English] is	language	other language. The
	set up by default.		language in this
			device is English.
System	This is current date	Date and time	Set the date in the
Date/Time	setting. The time is	changes.	format [mm/dd/yyyy];
	maintained by the		The time in the format:
	battery when the		[hh/mm/ss]
	device is turned off.		
Access Level	The current user	Changes to the level	Administrator is set up
	access settings	of access	by the default

6.2.2 Advanced Settings

Select the Advanced Tab from the IH32 setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup menu is shown below. The submenus described on the following pages.



CAUTION

Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.

Aptio Setup Utility – Copyright (C) 2014 American Main Advanced Chipset Boot Security Save & Exit	Megatrends, Inc.
ACPI Settings RTC Wake Settings Trusted Computing CPU Configuration SATA Configuration Intel(R) Rapid Start Technology PCH-FW Configuration USB Configuration USB Configuration F81066 Super IO Configuration Intel(R) Ethernet Connection I218-LM - 88:88:88:88:88:88:88 Intel(R) I211 Gigabit Network Connection - 88:88:88:88:88:88:88 Intel(R) I211 Gigabit Network Connection - 88:88:88:88:88:88:88 Return Setting Seties Setting Setting Setting Setting Setting S	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

BIOS Setting	Description	Setting Option	Effect
ACPI Settings	Configures ACPI settings	Enter	Opens submenu
RTC Wake Settings	Configures RTC Wake parameters	Enter	Opens submenu
Trusted Computing	Configures Trusted Computing parameters	Enter	Opens submenu
CPU Configuration	Configures CPU settings	Enter	Opens submenu
SATA Configuration	Configures SATA parameters	Enter	Opens submenu
Intel [®] Rapid Start	Configures Intel Rapid Start	Enter	Opens submenu
Technology	Technology parameters		
PCH-FW	Configures PCH-FW	Enter	Opens submenu
Configuration	parameters		
USB Configuration	Configures USB parameters	Enter	Opens submenu
F81866 H/W Monitor	Configures H/W Monitor settings	Enter	Opens submenu
F81866 Super I/O	Configures Super I/O settings	Enter	Opens submenu
Configuration			
Intel Ethernet	Configures Intel Ethernet	Enter	Opens submenu
Connection	Connection settings		
Intel I211 Gigabit	Configures Intel I211 Gigabit	Enter	Opens submenu
Network Connection	Network Connection settings		

For items marked ► press **<Enter>** for more options.

6.2.2.1 ACPI Settings

Aptio S Advanced	Setup Utility – Copyright (C) 2014 American Meg	atrends, Inc.
ACPI Settings		
Enable ACPI Auto Configuration	[Disabled]	
Enable Hibernation	[Enabled]	
		++: Select Screen ↑↓: Select Item
		Enter: Select +/−: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized befaults F4: Save & Exit
		LOU, LAIT
LVersid	on 2.15.1236. Copyright (C) 2014 American Megat	rends, Inc.

BIOS Setting	Description	Setting Option	Effect
Enable ACPI	BIOS ACPI Auto	Enable/ Disable	Enables or
Auto	Configuration		Disables this
Configuration			function
Enable	Control hibernation	Enable/ Disable	Enables or
Hibernation			Disables this
			function

6.2.2.2 RTC Wake

Advanced	ptio Setup Utility – Copy	right (C) 2014 American Mega	atrends, Inc.	
Wake system with Fixed Time	[Disabled]			
Wake system with Dynamic Time	[Disabled]			
Wake system from S5 Wake system from S4	[Disabled] [Disabled]			
			++: Select Scr 14: Select Ite Enter: Select +/-: Change Op F1: General He F2: Previous V F3: Optimized F4: Save & Exi ESC: Exit	een m :t. :lp alues Defaults t
	v e rsion 2.13.1236. Copyri	gnt (6) 2014 American Megati	enus, nic.	
BIOS Setting	Description	Setting	Option	Effect

BIOS Setting	Description	Setting Option	Effect
Wake system with	System awake on	Enabled/	System will
Fixed Time	alarm events.	Disabled	awake at the hr:
			min: sec
			specified
Wake system with	S set the system to	Enabled/	System will
Dynamic Time	wake on the current	Disabled	awake at current
	time + increase		time+ increase
	minute (s).		minute (s).
Wake System from	Enables or disables	Enabled/	System will
S5	system wake on alarm	Disabled	awake at the hr:
	event. It allows you to		min: sec
	wake up the system in		specified
	a certain time.		

6.2.2.3 Trusted Computing

Advanced	Aptio Setup Utility – Copyright (C) 20:	4 American Megatrends, Inc.
Configuration Security Device Support TPM State Pending operation	[Enable] [Disabled] [None]	
Current Status Information TPM Enabled Status: TPM Active Status: TPM Owner Status:	[Disabled] [Deactivated] [Owned]	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	Version 2.15.1236. Copyright (C) 2014	American Megatrends, Inc.

BIOS Setting	Description	Setting Option	Effect
Security Device	Enable or disable BIOS	Enabled/Disabled	Set desirable
Support	support for security device		configuration
TPM State	Enable or disable TPM	Enabled/Disabled	Set desirable
	state.		configuration

6.2.2.4 CPU Configuration

CPU Configuration allows you to change CPU settings. Use key arrows to navigate through the menu.

Aptio S	Setup Utility – Copyright (C) 2014 American Mega	atrends, Inc.
CPU Configuration		XD can prevent certain classes of malicious buffer overflow attacks when
Intel(R) Core(TM) i5–4200U CPU @ 1	.60GHz	combined with a supporting OS (Windows
CPU Signature	40651	Server 2003 SP1, Windows XP SP2, SuSE
Processor Family	6	Linux 9.2, RedHat Enterprise 3 Update
Microcode Patch	17	3.)
FSB Speed	100 MHz	
Max CPU Speed	1600 MHz	
Min CPU Speed	800 MHz	
CPU Speed	1600 MHz	
Processor Cores	2	
Intel HT 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	→+: Select Screen
		↑↓: Select Item
L1 Data Cache	32 KB x 2	Enter: Select
L1 Code Cache	32 kB x 2	+/-: Change Opt.
L2 Cache	256 kB x 2	F1: General Help
L3 Cache	3072 kB	F2: Previous Values
		F3: Optimized Defaults
Execute Disable Bit	[Enabled]	F4: Save & Exit
Intel Virtualization Technology	[Enabled]	ESC: Exit
Boot performance mode	[Turbo Pertormance]	
EIST	[Enabled]	
Turbo Mode	[Disabled]	
Energy Performance	[Pertormance]	
HUPI CIUP BIUS	[DISADIED]	
CPU DIS	[Eughten]	

Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.

Advanced	Aptio Setup Utility – Copyright (C) 2014	American Megatrends, Inc.
SATA Controller(s) SATA Mode Selection SATA Controller Speed Serial ATA Port 0 Software Preserve Port 0 Serial ATA Port 1 Software Preserve Port 1 Serial ATA Port 2 Software Preserve	[Enabled] [AHCI] [Default] Empty Unknown [Enabled] Empty Unknown [Enabled] Empty Unknown	Enable or Disable SATA Port
	frum 1001	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

6 2 2 5 SATA Configuratio

BIOS Setting	Description	Setting Option	Effect
SATA Controller (s)	Allows users to enable	Enabled/	Set desirable
	or disable the SATA	Disabled	configuration
	controller (s)		
SATA Mode	Allows users to select	Enabled/	Set desirable
Selection	mode of SATA	Disabled	configuration
	controller (s)		
SATA Controller	Allows users to select	Enabled/	Set desirable
Speed	mode of SATA	Disabled	configuration
	Controller Speed		
Serial ATA Port	Allows users to enable	Enabled/	Set desirable
0/1/2	or disable the SATA	Disabled	configuration
	Port		

6.2.2.6 Intel[®] Rapid Start Technology

Allows users to enable or disable Intel rapid start technology.

Advanced	ptio Setup Utility – Copyright (C) 2014 America	an Megatrends, Inc.
Intel(R) Rapid Start Technolo	gy [Enabled]	
No valid partition Entry on S3 RTC Wake Entry After Active Page Threshold Support Hybrid Hard Disk Support RapidStart Display Save/Resto	[Enabled] 10 [Disabled] [Disabled] me [Disabled]	
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.15.1236. Copyright (C) 2014 American	Megatrends, Inc.
6.2.2.7 PCH (FW) CON	n jiguration ptio Setup Utility – Copyright (C) 2014 America	an Megatrends, Inc.
Advanced ME FW Version ME Firmware Mode ME Firmware Type ME Firmware SKU	9.5.13.1706 Normal Mode Full Sku Firmware 5MB	++: Select Screen 14: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

6.2.2.8 USB Configuration

Aptio Se Advanced	etup Utility – Copyright (C) 2014 American Meg	atrends, Inc.
USB Configuration		
USB Module Version	8.10.32	
USB Devices: 1 Drive, 1 Keyboard, 1 Mouse,	1 Hub	
Legacy USB Support XHCI Hand-off EHCI Hand-off USB Mass Storage Driver Support USB handware delays and time-outs: USB transfer time-out Device reset time-out Device power-up delay	[Enabled] [Enabled] [Disabled] [Enabled] [20 sec] [20 sec] [20 sec] [Auto]	
Mass Storage Devices: JetFlashTranscend 1608 1.00	[Auto]	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Versin	n 2 15 1236 Conwright (C) 2014 American Megat	rends Inc

BIOS Setting	Description	Setting Option	Effect
Legacy USB	User can enable or	Disabled	Will keep USB devices
Support	disable USB port.		available only for EFI
			applications.
		Enabled	Enable all the USB
			devices
XHCI Hand-off	This is a workaround	Disabled	Disables this function
	for OSs without XHCI		
	hand- off support.	Frablad	Enchlos this function
		Enabled	Enables this function
EHCI Hand-off	This is a workaround	Disabled	Disables this function
	for OSs without ECHI	Enabled	Enables this function
	hand- off support.		
USB Mass	User can Enable or	Disabled	Disables this function
Storage Driver	disable USB mass	Enabled	Enables this function
Support	storage driver		
	support.		
USB Transfer	The time-out value for	1 Sec	Depends on the time-out
time- out	control, bulk, and	5 Sec	value
	interrupt transfers.	10 Sec	
		20 Sec	

Device Reset	USB mass storage	10 Sec	Depends on the time-out
time- out	device start unit	20 Sec	value
	command time- out.	30 Sec	
		40 Sec	
Device power-	Maximum time the	Auto	Uses default value: for a
up delay	device will take before		root port it is 100 ms, for
	it properly reports		a Hub port the delay is
	itself to the host		taken from Hub
	controller.		descriptor
Mass Storage	Mass storage device	[AUTO]	Configure mass storage
Device	emulation type.	enumerates	device emulation type
		devices less	
		than 530MB as	
		floppies.	
		Forced FDD	
		option can be	
		used to force	
		HDD	
		formatted	
		drive to boot	
		as FDD	

6.2.2.9 F81866 H/W Monitor

Advanced	Aptio Setup Utility – Copyright	(C) 2014 American Megatren	ds, Inc.
Pc Health Status			
Smart Fan Function ▶ Smart Fan Mode Configuratio	[Enabled] m		
 Smart Fan Mode Configuration CPU Temperature QM87 Temperature CPU Fan Speed VCORE +12V +5V +3.3V VSB5V VSB5V VSB3V VBAT 	: +35 C : +38 C : 3614 RPM : +1.752 V : +12.320 V : +5.171 V : +3.376 V : +5.184 V : +3.408 V : +3.280 V	++: 11: Ent +/- F1: F2: F3: F4: ESC	Select Screen Select Item er: Select : Change Opt. General Help Previous Values Optimized Defaults Save & Exit : Exit
	Version 2.15.1236. Copyright (C	C) 2014 American Megatrends	, Inc.

BIOS Setting	Description	Setting Option	Effect
Smart Fan Function	Set parameters of smart fan function	Enabled/ Disabled	Enable or disable this function
Smart Fan Mode Configuration	Configure smart fan mode settings		

6.2.2.10 F81866 Super IO Configuration

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.			
Advanced F81866 Super IO Configuration F81866 Super IO Chip > Serial Port 1 Configuration > Serial Port 2 Configuration > Serial Port 4 Configuration > SuperIO HatchDog Timer Setting > SuperIO GPIO Setting	F81866	014 American Megatrends, Inc. ++: Select Screen 14: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Ver	sion 2.15.1236. Copyright (C) 2014	4 American Megatrends, Inc.	

BIOS Setting	Description	Setting Option	Effect
Setting Serial	User can Enable/Disable	Enable/Disable	Enable or
Port Parameters	the serial port and select		Disable Serial
	optimal settings for the	Default:	Port (COM).
	Super IO Device.	Enable	
Super IO Watch	The watchdog timer circuit has to be triggered within a		
Dog Timer	specified time by the application software. If the watchdog is		
Setting	not triggered because proper software execution fails or a		
	hardware malfunction occurs, it will reset the system.		

Pin 3~ Pin 10 Control Settings.

Advanced	Aptio Setup Utility – Copyright (C)	2014 American Megatrends, Inc.	
SuperIO GPIO Setting			
Pin 3 Control Pin 4 Control Pin 5 Control Pin 6 Control Pin 7 Control Pin 9 Control Pin 9 Control Pin 10 Control	[Input] [Input] [Input] [Input] [Input] [Input] [Input] [Input]	++: Select Screen T4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
	Version 2.15.1236. Copyright (C) 2	014 American Megatrends, Inc.	

Advanced	Aptio Setup Utility – Copyright (C) 20:	15 American Megatrends, Inc.
Serial Port 1 Configuratio	on	Select RS232/ RS422/ RS485(Rx)/
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;	NOAD (TX)
Change Settings UART Mode	[Auto] [RS232]	
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	Vapolas 0 47 4047 Comunists (0) - 2045	Areatican Medatapada Tan

6.2.2.11 Serial Port RS232/RS422/RS485 Settings

BIOS Setting	Description	Setting Option	Effect
Serial Port	Select Serial Port	RS232 / RS422	Choose Serial
		RS485 (Rx)/	Port Settings
		RS485(Tx)	
Change Settings	Allow Change Serial	[AUTO]	
	Port Settings		
UART Mode	Show which serial port is	used	

6.2.3 Chipset Menu

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Main Advanced <mark>Chipset</mark> Boot Security Save & Exit		
 PCH-ID Configuration System Agent (SA) Configuration 	++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.		
Chipset	Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.	
--	--	--
Intel PCH RC Version Intel PCH SKU Name Intel PCH Rev ID	1.6.2.0 Premium SKU 04/B2	
 PCI Express Configuration USB Configuration 		
PCH LAN Controller Wake on LAN Board Capability SLP_S4 Assertion Width Restore AC Power Loss	[Enabled] [Disabled] [SUS_PAR_DN_ACK] [4-5 Seconds] [Power Off]	
	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	

6.2.3.1 PCH- IO Configuration

BIOS Setting	Description	Setting Option	Effect
PCI Express	Detail of PCI Express	N/A	Set desirable
Configuration	items.	N/A	parameters
USB	Dotails of USP itoms	N/A	Set desirable
Configuration	Details of USB items	N/A	parameters
PCH LAN	Enables or disables the	Enabled/	Set desirable
controller	LAN1/2 controller.	Disabled	parameters
Wake On LAN	Enables or disables LAN1/2 wake up from sleep state.	Enabled/ Disabled	Set desirable parameters
SLP_S4 Assertion Width	Sets a minimum assertion width for the SLP_S4# signal	[4-5 seconds]	Set desirable parameters
Restore AC Power Loss	This item allows users to select off, on and last state.	Power on/ Power off	Set desirable parameters

6.	2.3.2	PCI	Express	Configui	ration
----	-------	-----	---------	----------	--------

Aptio Se Chipset	tup Utility – Copyright (C) 2014 American Mega	trends, Inc.
PCI Express Configuration		
DMI Link ASPM Control DMI Link Extended Synch Control PCIe-USB Glitch W/A	[Enabled] [Disabled] [Disabled]	
 PCI Express Root Port 4 PCI Express Root Port 5 PCI Express Root Port 6 		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.15.1236. Copyright (C) 2014 American Megatre	ends, Inc.

BIOS Setting	Description	Setting Option	Effect
DMI Link ASPM	Allows users to enable or	Enabled/	Set desirable
Control	disable the DMI Link ASPM	Disabled	parameters
	Control		
DMI Link	Allows users to configure	Enabled/	Set desirable
Extended Synch	Mini PCI Express setting	Disabled	parameters
Control			
PCIe- USB Glitch	For bad USB devices	Enabled/	Set desirable
W/A	connected behind	Disabled	parameters
	PCIE/PEG port		

[Disabled] [Smart Auto] [Enabled] [Enabled]	
e Control [Disabled]	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	[Disabled] [Smart Auto] [Enabled] e Control [Disabled]

BIOS Setting	Description	Setting Option	Effect
USB	Allows user to enable or	Enabled/	Set desirable
Precondition	disable USB precondition	Disabled	parameters
XHCI Mode	Allows user to enable or	[Smart Auto]	Set desirable
	disable XHCI mode.		parameters
USB Ports Per-	Control each of the USB	Enabled/	Set desirable
Port Disable	ports (0~13) disabling	Disabled	parameters
Control			

6.2.3.5 System Agent (SA) Configuration

Allows users to enable or disable VT-d.

Chipset	Aptio Setup Utility – Copyright	(C) 2014 American Megatren	ds, Inc.
System Agent Bridge Name System Agent RC Version VT-d Capability	Haswell 1.6.2.0 Unsupported		
▶ Graphics Configuration		++: 11; Ent +/- F1; F2; F3; F4; ESC	Select Screen Select Item Per: Select Change Opt. General Help Previous Values Optimized Defaults Save & Exit Prexi Exit
	Version 2.15.1236. Copyright (C) 2014 American Megatrends	. Inc.

6.2.3.6 Graphics Configuration

Apt Chipset	io Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
Graphics Configuration IGFX VBIOS Version IGfx Frequency Graphics Turbo IMON Current	2180 800 MHz 31	
Primary PEG Internal Graphics Aperture Size DVMT Pre-Allocated DVMT Total Gfx Mem Gfx Low Power Mode Panel Power Enable	[Auto] [Auto] [256MB] [32M] [256M] [Enabled] [Disabled]	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Ve	rsion 2.15.1236. Copyright (C)	2014 American Megatrends, Inc.
BIOS Setting	Description	2014 American Aegatrenus, inc.

BIOS Setting	Description
Graphics Turbo IMON	Allows users to select which Graphics Turbo IMON
Current	Current
Internal Graphics	Allows users to enable or disable IGD
Aperture Size	This item allows users to select aperture size
DVMT Pre-Allocated	Allows users to select DVMT pre-allocated memory
	size
DVMT Total Gfx Mem	Allows users to select DVMT total memory size
Gfx Low Power Mode	Allows users to enable or disable IGD low power
	mode
Panel Power Enable	Allows users to enable or disable Panel Power

6.2.4 Boot Menu

The Boot menu sets the sequence of the devices to be searched for the operating system. The bootable devices will be automatically detected during POST and shown here, allowing you to set the sequence that the BIOS use to look for a boot device from which to load the operating system.

Main Advanced Chipse	Aptio Setup Utility – Copyright (C) 2014 American M t <mark>Boot</mark> Security Save & Exit	egatrends, Inc.	
Boot Configuration Setup Prompt Timeout Bootup NumLock State	1 [0n]		
Quiet Boot Fast Boot	[Disabled] [Disabled]		
Boot Order Priorities Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4 Boot Option #5 Boot Option #6 Boot Option #7	[Network] [SATA PO] [SATA P1] [MSATA] [USB Key] [USB KC/DVD] [RAID Partition]		
 CSM16 Parameters CSM parameters 		++: Select Scr 14: Select Ite Enter: Select +/-: Change Op F1: General He F2: Previous A F3: Optimized F4: Save & Exi ESC: Exit	een m :t. :lp /alues Defaults .t
	Version 2 15 1226 Conusidht (C) 2014 American Med	atrends Inc	
BIOS Setting	Version 2.15.1236. Copyright (C) 2014 American Meg Description	atrends, Inc. Setting Option	Effect
BIOS Setting Setup Prompt Timeout	Version 2.15.1236. Copyright (C) 2014 American Mega Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen.	Setting Option Enter	Effect Set the prompt timeout
BIOS Setting Setup Prompt Timeout Boot NumLock State	Version 2.15.1236. Copyright (C) 2014 American Mega Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen. Enables or disables NumLock feature on the numeric keypad of	Atrends, Inc. Setting Option Enter On	Effect Set the prompt timeout Remains On
BIOS Setting Setup Prompt Timeout Boot NumLock State	Version 2.15.1236. Copyright (C) 2014 American Mega Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen. Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On).	Arrends, Inc. Setting Option Enter On Off	Effect Set the prompt timeout Remains On Remains OFF
BIOS Setting Setup Prompt Timeout Boot NumLock State Quite Boot	Version 2.15.1236. Copyright (C) 2014 American Mega Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen. Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On). Determines if POST message or OEM logo is displayed.	Arrends, Inc. Setting Option Enter On Off Disabled	Effect Set the prompt timeout Remains On Remains OFF Disables this function
BIOS Setting Setup Prompt Timeout Boot NumLock State Quite Boot	Version 2.15.1236. Copyright (C) 2014 American Mega Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen. Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On). Determines if POST message or OEM logo is displayed.	On Off Disabled Enabled	Effect Set the prompt timeout Remains On Remains OFF Disables this function Enables this function
BIOS SettingSetup PromptTimeoutBoot NumLockStateQuite BootFast Boot	Version 2.15.1236. Copyright (C) 2014 American Meg Description Allows user to configure the number of seconds to stay in BIOS setup prompt screen. Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On). Determines if POST message or OEM logo is displayed. Enables or disables Fast Boot to shorten the OS boot process.	Setting Option Enter On Off Disabled Enabled Disabled	Effect Set the prompt timeout Remains On Remains OFF Disables this function Enables this function Disables this function

Boot Option	Specifies the overall boot order	Ex: Boot	Hard drive as
Priorities	from the available devices	Option#1	the first priority
		(hard	
		drive)	

6.2.5 Security Menu

This section allows to configure and improve system, and set up some system features according to your preferences.

Aptio Se Main Advanced Chipset Boot <mark>Secu</mark>	tup Utility – Copyright (C) 2014 American Mega <mark>rity –</mark> Save & Exit	trends, Inc.
Password Description If ONLY the Administrator's password then this only limits access to Setu only asked for when entering Setup. If ONLY the User's password is set, is a power on password and must be e boot or enter Setup. In Setup the Us have Administrator rights. The password length must be	is set, o and is then this ntered to er will	
in the following range: Minimum length Maximum length	3 20	
Administrator Password User Password		
▶ Secure Boot menu		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.15.1236. Copyright (C) 2014 American Megatr	ends, Inc.

BIOS Setting	Description	Setting Option	Effect
Administrator Password	Displays whether or not an administrator password has been set.	Enter	Enter password
User Password	Display whether or not a user Password has been set.	Enter	Enter password

6.2.6 Save & Exit

Aptio Setup Utility – Copyright (C) 2014 American Megat Main Advanced Chipset Boot Security <mark>Save & Exit</mark>	rends, Inc.
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Options Save Changes Discard Changes Restore Defaults Save as User Defaults Restore User Defaults	
Boot Overnide	
Launch EFI Shell from filesystem device	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

BIOS Setting	Description	Setting Option	Effect
Save Changes and Exit	This saves the changes to the CMOS and exits the BIOS Setup program.	Enter <yes></yes>	Save changes
Discard Changes and	This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS.	Enter <yes></yes>	Saves the changes
Exi		Enter <no></no>	Return to the BIOS Setup Main Menu
Save Changes and Reset	Reset the system after saving the changes.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Discard Changes and	Reset system setup without saving any changes	Enter <yes></yes>	Saves the changes
Reset		Enter <no></no>	Return to the BIOS Setup Main Menu

Save Changes	Save changes done so far to any of the setup options.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Discard Changes	Discard changes done so far to any of the setup options.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Restore Default	Restore/load default values for all the setup options.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Save as User Defaults	Save the changes done so far as User defaults.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Restore User Defaults	Restore the User Defaults to all the setup options.	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu
Boot Override	Boot device selection can override your boot priority	Enter <yes></yes>	Saves the changes
		Enter <no></no>	Return to the BIOS Setup Main Menu

6.3 Using Recovery Wizard to Restore Computer

IH32 motherboard has a dedicate recovery partition stored on the hard drive of the PC to enable quick one-key recovery process. This partition occupies about 11GB of the storage space, and comes built-in to each IH32 series PC.



IMPORTANT:

Before starting the recovery process, be sure to backup all user data, as all data will be lost after the recovery process.

Follow the procedure below to enable quick one-key recovery procedure:

- Plug-in the AC adapter to the Panel PC. Make sure the computer stays plugged in to power source during the recovery process
- Turn on the computer, and when the boot screen shows up, press the **F6** to initiate the Recovery Wizard
- The following screen shows the Recovery Wizard. Click on "Recovery" button to continue.



A warning message about data loss will show up. Make sure the data is backed up before recovery, and click "Yes" to continue.

1	Are you sure yo The action will o	u want to recovery your delete all of your data c	r system? on your disk.
		=	不 (N)

Wait the recovery process to complete. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete. The computer will restart automatically after recovery completed.

The DiskPart succeeded	X\\windows\System32\cmd.exe	
DiskPart successfu	ily converted the selected disk to CPT former	Cleve
DiskPart succeeded	in creating the specified partition.	
188 percent comp	leted	
DiskPart successfu	lly formatted the volume.	
DiskPart successfu	lly assigned the drive letter or mount point.	
DiskPart succeeded	in creating the specified partition.	
DiskPart succeeded	in creating the specified partition.	
100 percent comp	leted	and the second se
DiskPart successfu	lly formatted the volume.	
DiskPart successfu	lly assigned the drive letter or mount point.	
DiskPart succeeded	in creating the specified partition.	
H percent comp	leted	~
		and the second second

Technical Support

This chapter includes directory for technical support and Software Development Kit (SDK).



7 Technical Support

This chapter includes the directory for technical support. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. If any problem occurs fill in <u>problem report form</u> enclosed and immediately contact us.

7.1 Introduction

Winmate provide the following Drivers for Military Grade Rack Mount Panel PC with Intel[®] Core i7 4650U 3.30GHz processor.

Item	Driver	Description
1	Windows 10	1_Chipset
		2_Graphics
		3_Audio
		4_Network Connections
		5_ME
2	Windows 8	1_Chipset
		2_Graphics
		3_Audio
		4_Network Connections
		5_ME
3	Windows 7	1_Chipset
		2_Graphics
		3_Audio
		4_Network Connections
		5_ME
		6_USB3.0

Winmate provide the following SDK for Military Grade Rack Mount Panel PC with Intel[®] Core i7 4650U 3.30GHz processor:

Item	File Type	Description
1	SDK	Watchdog SDK

To find the Drivers and SDK, please refer to the Driver CD that comes in the package or contact us. Also, you can download drivers from Winmate Download Center or Winmate File Share.

7.1.1 Winmate Download Center

Go to <u>http://www.winmate.com/</u> > Support > Download Center > Military Panel PC (IH32) > Drivers / Development Kit

7.1.2 Winmate File Share

Go to <u>http://www.winmate.com/</u> > Support > File Share > Public Documents > Panel PC> Military > Rack Military > IH32 > Drivers / Development Kit

7.2 Problem Report Form

Military Grade Rack Mount Panel PC

Customer name:			
Company:			
Tel.:	Fax:		
E-mail:	Date:		

Product Serial Number: _____

Problem Description: Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.



MIL-STD-810F/G Compliance

This section includes information on testing methods and procedures in compliance with military standard MIL-STD-810 F/G.



Appendix

Appendix A MIL-STD-810F/G Compliance

This section includes information on testing methods and procedures in compliance with military standard MIL-STD-810 F/G.

MIL-STD-810F/G Compliance				
Te	est	Reference	Condition	
* High	Storage	Method 501,		
Temperature		Procedure I	Basic Hot 30 to 63 C \pm 2 C	
	Operation	Method 501,	Basic Hot 30 to 63°C ± 2°C	
		Procedure II		
* Low Storage		Method 502,	21°C + 2°C (MUL STD 8105)	
Temperature		Procedure I	-21 C ± 2 C (WIIL-31D-810F)	
	Operation	Method 502,	22°C + 2°C (MIL STD 810C)	
		Procedure II	-33 C ± 2 C (WIL-31D-810G)	
* Humidity		Method 507	20 to 60°C ± 2°C, 95%RH ± 3%	
* Vibration			5 ~ 500 Hz, 1.62/2.05/2.20 Grms,	
		Method 514.	3-Axis (MIL-STD-810F)	
		Procedure I		
			5 ~ 500 Hz, 1.48/1.90/2.24 Grms,	
			3-Axis (MIL-STD-810G)	
* Trans	sit Drop	Method 516,	4ft. 8 Corner, 12 edges, 6 faces	
	····	Procedure IV	,	
Low	Storage	Method 500,	30°C ± 2°C. 15.000 ft (4.572 m)	
Pressure		Procedure I		
(Altitude)	Operation	Method 500,	30°C ± 2°C, 15,000 ft (4,572 m)	
, ,	•	Procedure II		
Therma	al Shock	Method 503,	-21 to 63°C ± 2°C (MIL-STD-810F)	
		Procedure II	-33 to 63°C ± 2°C (MIL-STD-810G)	
			Salt Spray test, exposing for 24 Hrs	
Salt	Fog	Method 509	Drying condition for 24 Hrs 24 Hrs	
out rog			Salt Spray exposure + 24 Hrs	
			Drying condition	
She	ock	Method 516,	Impact acceleration 40 G, 6 faces	
		Procedure I		

A1 MIL-STD-810F/G Compliance

*Default Test

MIL-STD-810E/F Compliance

This section includes information on testing methods and procedures in compliance with military standard MIL-STD-810 E/F.



Appendix

Appendix B MIL-STD-461E/F Compliance

This section includes information on testing methods and procedures in compliance with military standard MIL-STD-810 E/F.

B1 MIL-STD-461E/F Compliance

MIL-STD-461E/F Compliance				
Test	Description	Туре	Frequency Range	
CE101	Power Leads	Conducted Emission	30 Hz ~ 10 kHz	
*CE102	Power Leads	Conducted Emission	10 kHz ~ 10 MHz	
CS101	Power Leads	Conducted Susceptibility	30 Hz ~ 150 kHz	
CS109	Structure Current	Conducted Susceptibility	60 Hz ~ 100 kHz	
CS114	Bulk Cable Injection	Conducted Susceptibility	10 kHz ~ 200 MHz	
CS116	Damped Sinusoidal Transients,	Conducted Susceptibility	10 kHz ~ 100 MHz	
	Cables and Power Leads			
RE101	Magnetic Field	Radiated Emission	30 Hz ~ 100 kHz	
*RE102	Electric Field	Radiated Emission	10 kHz ~ 18 GHz	
RS101	Magnetic Field	Radiated Susceptibility	30 Hz ~ 100 kHz	
RS103	Electric Field	Radiated Susceptibility	2 MHz ~ 18 GHz	

*Default Test



Winmate Inc.

9F, No.111-6, Shing-De Rd., San-Chung District, Taipei 241, Taiwan, R.O.C

Tel: 886-2-8511-0288 Fax: 886-2-8511-0211 Email: sales@winmate.com.tw Official website: <u>http://www.winmate.com.tw</u>