Rugged tablet

User Manual

Product name： Hand-held tablet pc

Item No.： TPC-GS1051HT -V4

Version: Ver. A00

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Guarantee Clause:

The product has 12 months' warranty. If the user has special requirement, please do it as the contract signed by the two parties.

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Safety Instructions

1. Please read the user manual carefully before using the product, and carefully keep it for future reference.
2. Before connecting power supply to the product, please confirm the voltage is compliant with the requirement of the device.
3. To avoid electric shock or damage to the product, please unplug the power cord from the socket before cleaning the device by wet rag.
4. Please do not use liquid or aerosol cleaner to clean up the device.
5. To avoid short circuit or fire, please do not let any liquid get into or splash into the product.
6. For a device which needs to use power cord, there must be an easy-to-reach power socket around the device.
7. Please do not use the product in a damp environment.
8. Before installation, please make sure the device is placed on a solid surface; accidental drop or tipping may cause malfunction or damage to the device.
9. Before you connect or unplug any signal cable, make sure all power cords are unplugged in advance.
10. To avoid unnecessary damage caused by frequent power-on/off, wait at least 30 seconds after turning off the computer before re-turning on the computer.
11. If the product will not be used for a long time, please disconnect the power cord, to avoid damage to the product by transient voltage.
12. If the product needs to be upgraded, installed or dismantled, please implement all the operation on an ESD workstation, for some precision devices are sensitive to ESD;
13. Ensure excellent heat dissipation and ventilation of the system.
14. Please do not open or dismantle the device by yourself. For the sake of

safety, this device can only be opened by a professional maintenance person.

Packing list

- Packing list 1PC
- TPC-GS1051HT V4 rugged tablet 1PC
- Power adapter 1PC
- Power cable 1PC
- QC pass check 1PC
- User instruction(Technical instruction & user manual) 1 set
- Driver 1 set
- Accessories box 1PC

2）OS list

- WINDOWS 7 64 bit
- CPU-Z（CPU test）
- BurnInTest(general test for OS)

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1. Product Introduction

1.1 Brief intoduction

TPC-GS1051HT V4 is rugged handheld tablet PC with low power consumption ,high performance and reliability, fanless design with touch screen. Front panel is made of ABS and casing is make of aluminium-alloy.

This tablet is based on Intel bay trail N2930 quad core CPU with low poer but high performance, 4GB DDRIII on board, has USB port and TF card slot with silicon waterproof cover, and other I/O also used waterproof connection/ports. Whole tablet with IP65 protection level. Support Windos 7, Windows 8, Linux etc OS.

This product can be used in military, outdoor, in-vehicle etc harsh environment.

1.2 Specification

Item		Definition
Main function	Processor	N2930 1.83GHZ quad core
	Chipset	Intel® bay trailN2930 chipset
	RAM	On baord DDR3 4GB
	Display	Integrated graphics
	Storage	Standard SSD 64GB。
	Ethernet	1* RTL8111E 1000M Ethernet
	Audio	1* Audio-out
	Expansion	1* MPCIE, support expanding
	LED	● Display:10.1″TFT LED ● Resolution: 1280 x800 ● Brightness:350cd/m2 ● Contrast: 800：1
	Touch screen	● Connection: USB ● Type: 10-points capacitive touch screen

	Buttons	● 6 buttons(2 for brightness, 2 for audio adjustment, 1 windows8 home. 1* power）
	Camera	● Front Camera: 200W ● Back Camer: 500W with flash, flash is set by Camera software
	Battery	● Polymer lithium battery 5300mAH working about 8h standby time 48h
	Stylus	● Installed on casing.
	Power	● Connection: 2 Pin standard DC plug ● Operating Voltage 12V DC 、 AC220v convert to 12V/5A power adapter
	IO ports	● 1*USB2.0 1*USB3.0 ● 2*RS232(1*RS232 1*RS485 optional) ● 1*SD card slot ● 1* SIM card slot ● 1* HDMI Port ● 1* Ethernet port RJ45 ● 1* Audio out ● 3G/4G,GPS, RFID、1D/2D scanner optional
Performance	**Size**	● TPC-GS1051HT 274mm（L）×194mm（W）×26.5mm（H）;
	Structure	● Casing: High-strength aluminium alloy,Anodized polishing surface, meet IP65 protection level. ● Color: Silver ● Thermal design: integrated all-aluminum body active thermal design ● Material: High-strength alloy dissipation board.
	Weight	● TPC-GS1051HT V4：N.W：1.45Kg；G.W：1.7Kg
	Temp.	● Operating temp:-20°C ～ 60°C ● Storage Temp: -50°C ～ 70°C

	HUMIDITY	90% @ 40°C（non-condensing）
	EMC	● GB9254 Class A ● GB/T 17618
	RELIABILITY	● MTBF ≥ 50000h ● MTTR ≤ 0.5h
	SAFETY	Compliance with with standard of GB4943
	Protection	IP65 optional
	Mechanical Properties	● Anti-vibration: 5-19Hz/1.0mm amplitude; 19-200Hz/1.0g, acceleration ● Anti-shock: 10g acceleration, 11ms duration；
	POWER	● 100～240V AC/50～60Hz(standard, with power adapter); Input power: 12V DC ● Power Dissipation: 11W(standby); ● Power: 17W (MaxPower 100%);
Hardware version		● DH-N2930 V2.0

1.3 I/O Interface

Photo 1-1

2. Application planning

2.1 Transportation

Well-packaged products are suited for transportation by truck, ship, and plane. During transportation, products should not be put in open cabin or carriage. During transshipping, products should not be stored in open air without protection from the atmospheric conditions. Products should not be transported together with inflammable, explosive and corrosive substances and are not allowed to be exposed to rain, snow and liquid substances and mechanical force.

2.2 Storage

Products should be stored in package box when it is not used. And warehouse temperature should be

-20^{O}C~70 ^{O}C, and relative humidity should be 20% ~ 85%. In the

warehouse, there should be no harmful gas, inflammable, explosive products, and corrosive chemical products, and strong mechanical vibration, shock and strong magnetic field interference. The package box should be at least 10cm above ground, and 50cm away from wall, thermal source, window and air inlet.

Caution ！！
Risk of destroying the device! When shipping the PC in cold weather, please pay attention to the extreme temperature variation. Under this circumstance, please make sure no water drop (condensation) is formed on the surface or interior of the device. If condensation is formed on the device, please wait for over twelve hours before connecting the device.

2.3 Unpack and check the delivered equipment

Unpack the equipment

Pay attention to the following things when you unpack the equipment.

- **Please take the advice not to throw away the original packaging material and please retain to use it when the equipment should be transported again.**
- **Please put the document in a safe place. It will be used in the initial adjustment of equipment and it is a part of the equipment.**
- **When you check the delivered equipment, please check whether it is obviously damaged during the transportation.**
- **Please check whether the delivered parcel includes the whole equipment and the accessories you ordered separately. If there is any discrepancy or damaged during transportation, please contact our customer-service staff.**

3. Installation Instruction

3.1 Product Photo

Photo 3-1

3.2 Installation Instruction

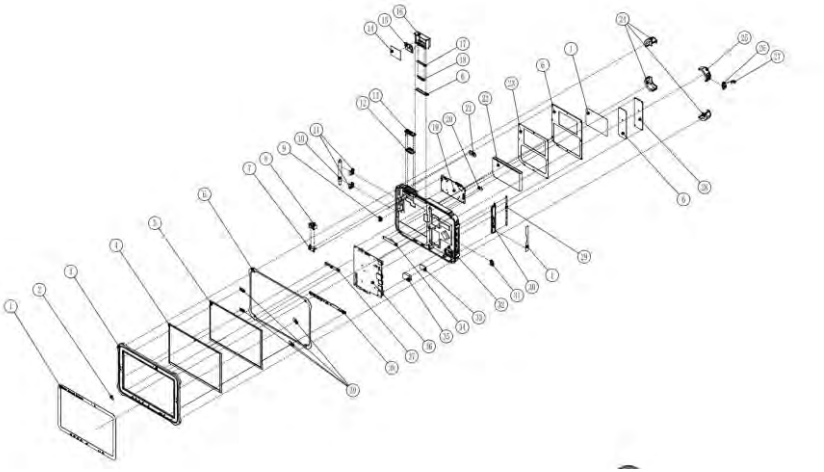
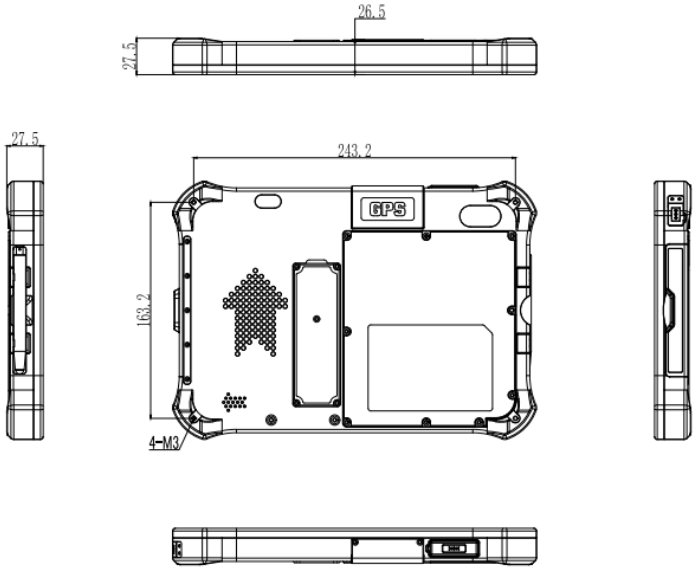


Photo 3-2

3.3 Product photo & assembly photo



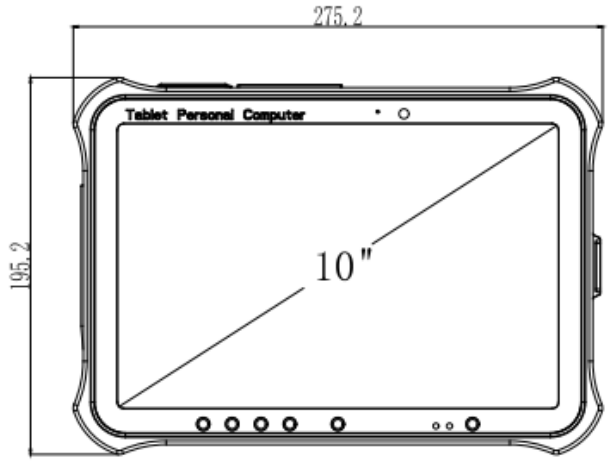


Photo 3-3

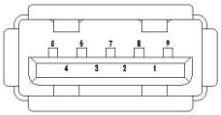
4. Product Interface

4.1 USB Definition

This tablet has 1 USB3.0 and 3 USB2.0 connection, definition as below:

USB1-3

USB2.0	Definition
1	＋5V
2	USB Data－
3	USB Data＋
4	GND

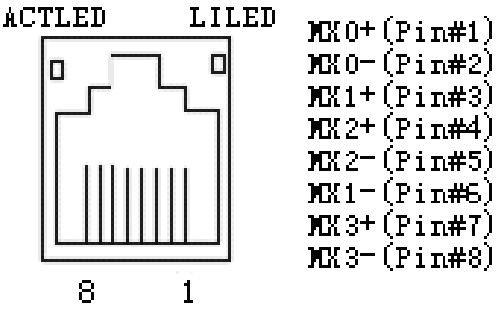


USB4

USB3.0	Definition
1	VBUS
2	D－
3	D＋
4	GND
5	StdA_SSRX－
6	StdA_SSRX＋
7	GND_DRAIN
8	StdA_SSTX－
9	StdA_SSTX＋

4.2 Ethernet

This tablet has 1 Ethernet port, definition as below:

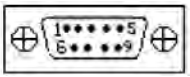


LAN1，LAN2

ACTLED (Single color Yellow)	Network status	LILED （2colors Green/Orange）	Network Speed
		Orange	1000Mbps
Flash	Data Transmission	Green	100Mbps
Light off	No Data Transmission	Light off	10Mbps

4.3 Standard DB9 Comports

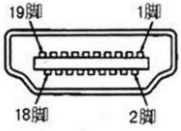
Total 2 COM on this product. COM1、COM2 support RS-232, COM4 Support RS485/RS422,Definition as below:



COM1～4

Pin	Definition		
	RS-232	RS-485	RS-422
1	DCD#	T/R＋	T/R＋
2	RXD	T/R－	T/R－
3	TXD	X	RXD＋
4	DTR#	X	RXD－
5	GND	GND	GND
6	DSR#	VCC（＋5V backup input）	VCC（＋5V backup input）
7	RTS#	X	X
8	CTS#	X	X
9	RI#	X	X

4.5 Standard HDMI A Type



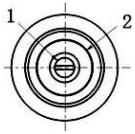
HDMI

Pin	Definition	Pin	Definition
1	DATA2＋	2	DATA2 blocked
3	DATA2－	4	DATA1＋
5	DATA1 blocked	6	DATA1－
7	DATA0＋	8	DATA0 blocked
9	DATA0－	10	DATA1_CK＋
11	DATA1_CK blocked	12	DATA1_CK－
13	CEC	14	Reserved
15	SCL（DDC	16	SDA（DDC

		Clock）		data）
	17	DCC/CEC GND	18	＋5V
	19	Hot plug checking	/	

4.6 Power Port

This product works with DC+12V power supply, and work with power adapter. Definition as below:

	Pin	Definition
 DC12V input	1	＋12V
	2	GND

5. Appendix

5.1 BIOS Setting

5.1.1 Main Menu selection

Press “Del” after startup and enter BIOS CMOS program. The first page as below and user can set date and time as picture 5-1

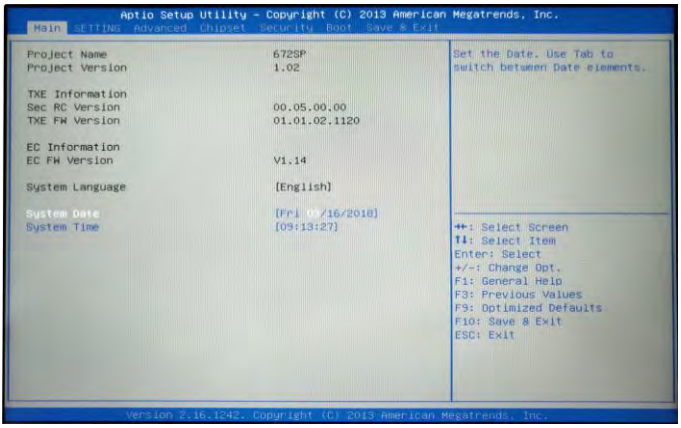


Photo 5-1

5.1.2 Advanced Menu selection

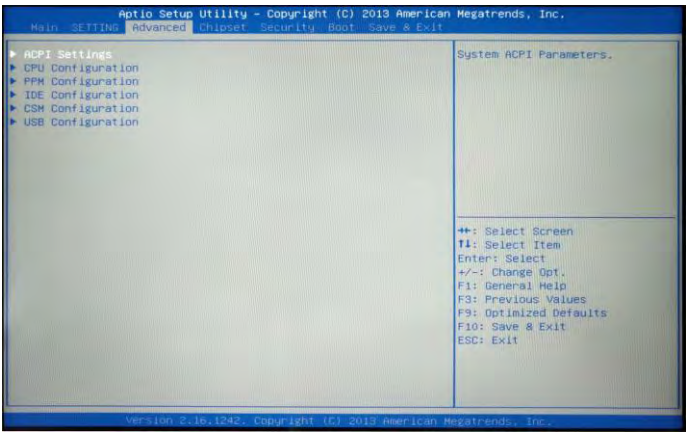


Photo 5-2.1

- ACPI Settings Advanced power management setting；
- CPU Configuration　CPU settomg；
- PPM Configuration This selection can modify PPM parameters
- Thermal Configuration　Thermal setting;
- IDE Configuration IDE setting；
- Select OS:

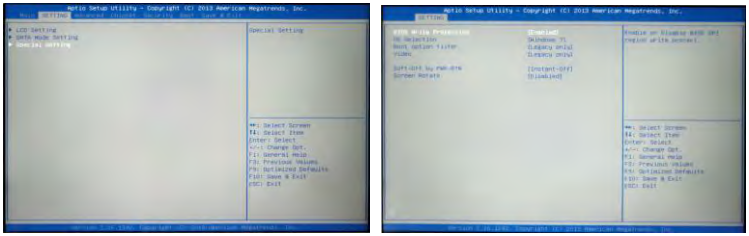


Photo 5-2.2

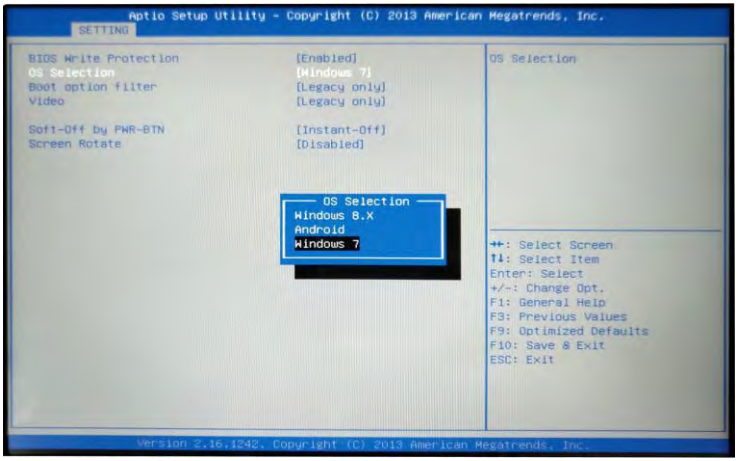


Photo 5-2.3

5.1.3 Setting Menu selection

Enter the page as 5-3.1, choose to enter LCD Setting, then enter pageof 5-3.2.

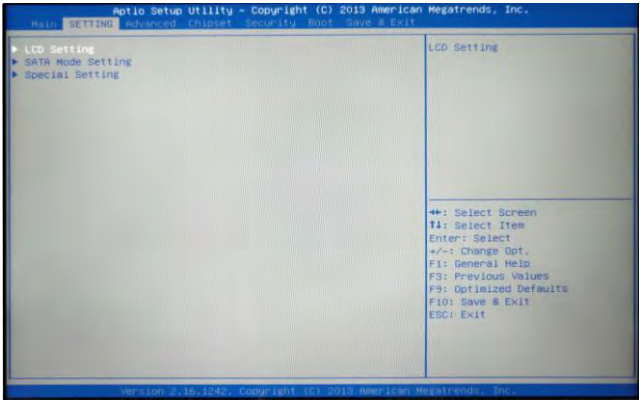


Photo 5-3.1

In the selection of CD Panel Type, modify initial resolution of the tablet. If the resolution figure is not match with screen actual data, the screen will not function well. Refer to photo 5-3.2：

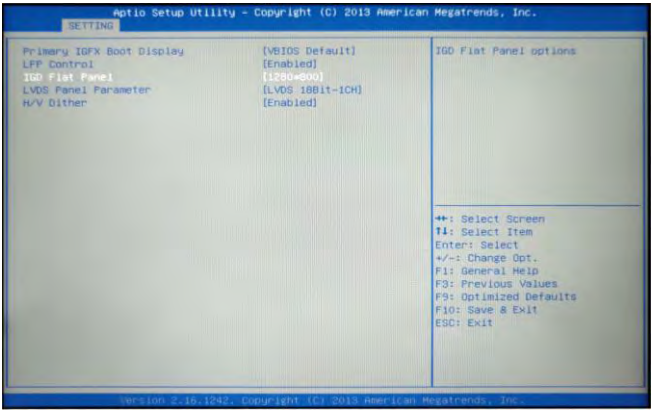


Photo 5-3.2

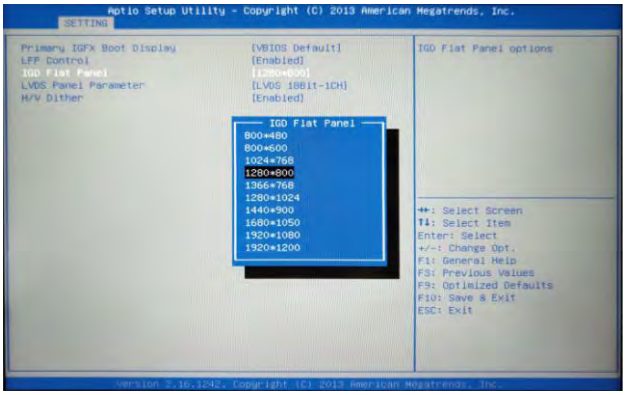


Photo 5-3.3

Choose correct OS, as photo 5-3.4 & photo 5-3.5

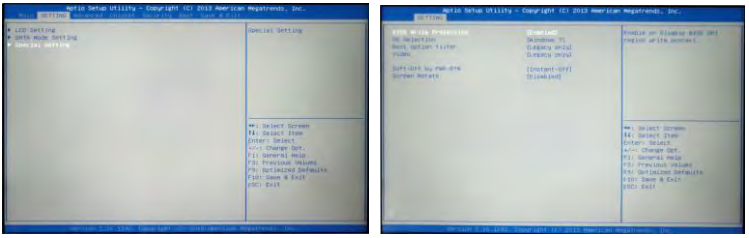


Photo 5-3.4

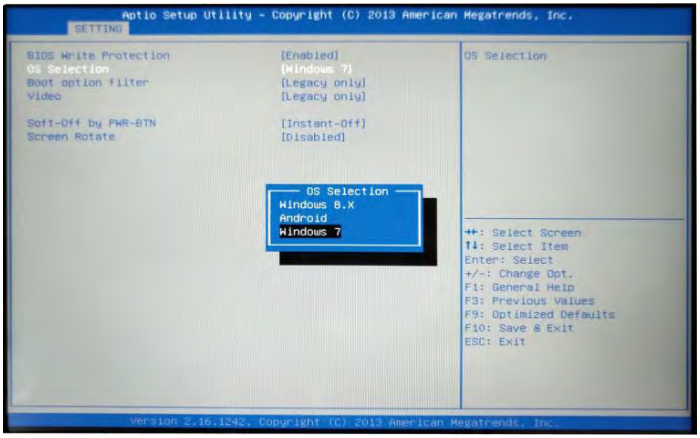


Photo 5-3.5

5.1.4 Boot Menu settling

This function can set up Num Lock keyboard status as power-on and set the storage sequence. First go to Hard Drive BBS Priorities function, choose the storage device in Boot Option #1,and press F4 save then exit. As below Picture

Refer to below photo 5-4：

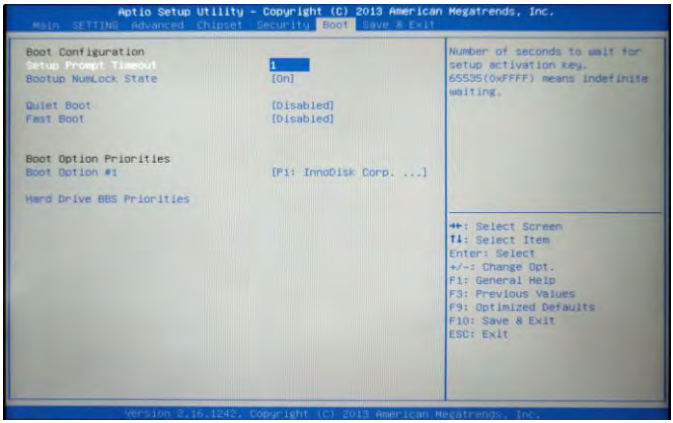


Photo 5-4

Enter menu of Hard Drive BBS Priorities, Choose Boot Option #1 to start up device, refer to photo 5-5：

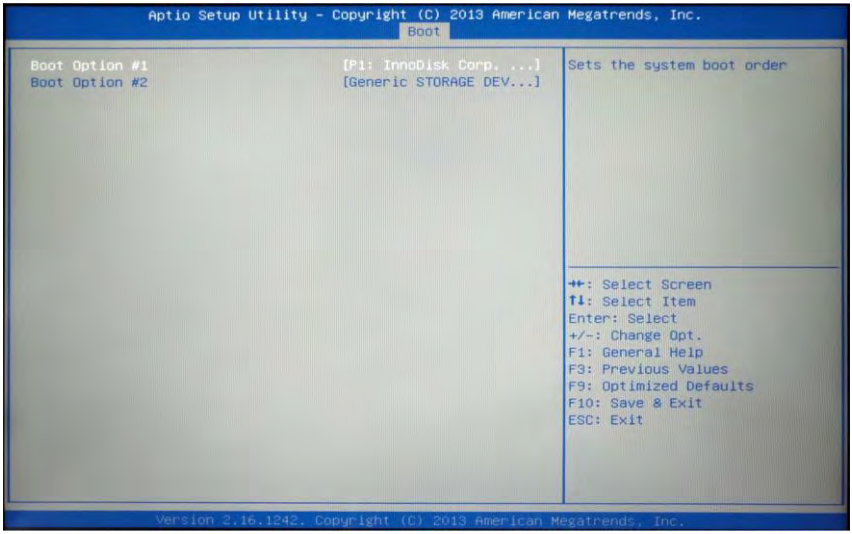


Photo 5-5

Press ESC back to previous procedure once above is done. Choose again Boot Option #1, as photo 5-6, press F4 to save, then press ESC exit.

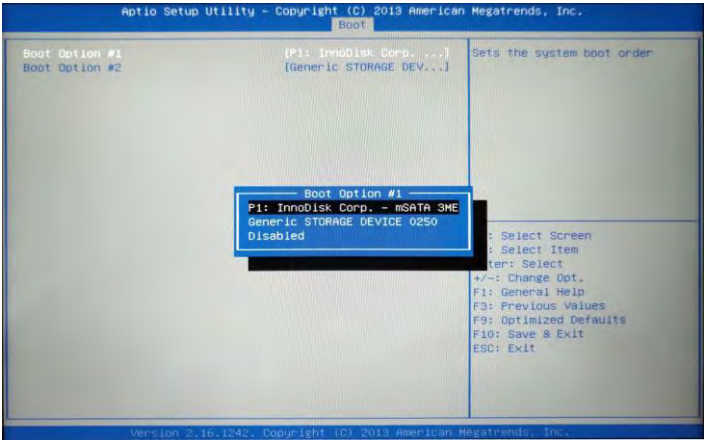
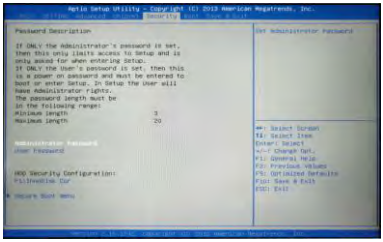


Photo 5-6

5.1.5 Security Menu selection

This menu allows you to set the license password to enter the BIOS Setup interface and to open the license key for your PC, refer to below photo 5-7：



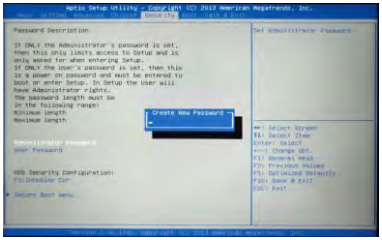


Photo 5-7

5.1.6 Save & Exit Menu selection

Enter CMOS, choose “Save & Exit”, set up as below photo 5-8.

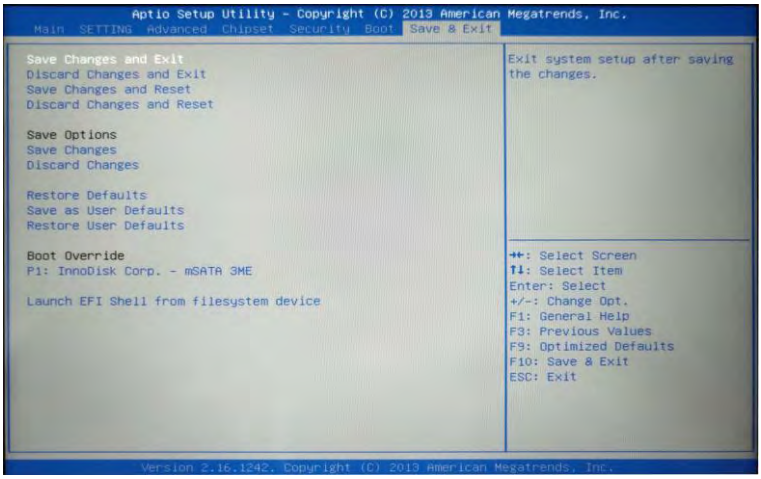


Photo 5-8

Press F9 to restore the default settings, F10 save settings

5.2 Driver Installation

5.2.1 Chipset Driver Installation

(1) Enter DVD content Driver / Chipset / Contents and double click“Intel_inf.exe”。

(2) Click “Next” and “Continue” as instruction;

(3) Click “yes” and then “finish” to restart the computer to finish installation.

5.2.2 Onboard Display Card Installation

(1) Enter DVD Content Driver / Graphic / contents, choose corresponding folder, double click“setup.exe”。

(2) Click “Next”and “Continue” as instruction.

(3) Click “Yes” and then “Finish” and restart the computer to finish installation.

5.2.3 Onboard Sound Card Installation

(1) Enter DVD content Driver / Audio / contents, choose the corresponding OS folder, double click“setup.exe”. Click “Next” and then “ Continue”;

(2)Click “Yes” and then “Finish” and restart the computer to finish installation

5.2.4 Onboard Network Card Installation

(1)Enter DVD content Driver\ LAN\ contents, choose the corresponding OS folder and click “setup.exe”.Click “Next” and then “ Continue”;

(2)Click “Yes” and then “Finish” and restart the computer to finish installation.

5.2.5 FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Any changes or modifications not expressly approved by the party responsible for compliance
could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception,
which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.
The device has been evaluated to meet general RF exposure requ
irement. The device can be used in portable
exposure condition without restriction
FCC ID: 2AQR9GS1051HT

5.3 Trouble Shooting

Common Malfunction	Possible Reasons	Trouble shooting and solution
The device is not operating	No power supply or batatery run out of power	Please check the power supply and the power cable/ connector or charage battery
	Improper device Operating environment	1. Check the environment conditions Please wait for 12 2. hours before powering on the device shipped in cold day.
The external display is black	Display output jump to another display output channel	Enter OS and use Ctrl+Alt+F1/F2/F3/F4 to change the display output within VGA/DVI/LVDS/HDMI.
	The display is under “power saving” mode	Press any key on the keyboard.
	The luminance control is set to “Black”	Increase the screen luminance by luminance control. Please
	Power cable or display cable is not connected	1. Check if LVDS cable connection is loosen up. 2. Check if LVDS cable connection on

		motherbaord is loosen up.
Incorrect time or date on PC。	Incorrect BIOS setting	Follow the power-on prompt and press the key to enter the BIOS setup, adjust the time and date in BIOS setup.
BIOS setting is correct while the time and date are not correct	Insufficient backup battery capacity	Replace the battery
USB device has no response	USB port is disabled in BIOS	Enable USB port
	USB 3.0 device not connected	Driver of USB3.0 not installed.Load the USB 3.0 driver from the installation CD.
	USB port is not supported by the operating system	1. Enable USB Legacy Support for the mouse & keyboard (legacy USB is supported) ; 2. For other device, appropriate USB drivers are required.
PC not power on or showing Boot device not found	In booting priority of the BIOS setting, the device is not the first priority or the device is not include in the booting device	Modify the booting priority of the device in the Boot menu of BIOS setting or include that device into the booting priority
No system disk can be found when	System files on the hard disk are damaged	Enter the system (usually WinPE system) with a bootable disk check whether the system in the

powering on		hard disk is damaged. Reinstall the system if necessary.
SD Card issues	No response when plug SD card.	TF card is plug and play, try not to hot swap, do not exit from the system when unplug the card, or you need to restart the computer to recognize the TF card
	SD card loose contract	TF card gold finger oxidated, or polluted by oil.
Touch screen issues	Touching not function	Check touch screen cable connectionis loose or not.
	Part of touch screen not work	There is no function in some parts of the touch screen, indicating that the touch screen cable is broken, and the screen component needs to be replaced.
	Touching not accurate	Check software conflicts and update drivers for USB devices in the device, such as Beidou GPS module, camera, motherboard chipset, etc. Check the hardware interference and check if the touch screen line routing position avoids high-power devices and signal sources.