# NanoPC
User's Manual

**Trademark:**

All trademarks are the property of their respective owners.

**Version:**

User's Manual V1.0 for NanoPC.

**Symbol description:**

Note: Refers to important information that can help you to use NanoPC better, and tells you how to avoid problems.

Caution: Indicating a potential risk of hardware damage or physical injury may exist.

WEEE:

The use of this symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased this product.
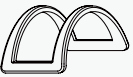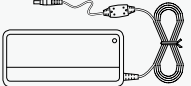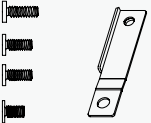
**Safety Notice:**

Before using this product, please read the below safety notice carefully, this will help to extend the product's lifecycle, and work normally.

- When NanoPC is working, please make sure its ventilation system is working.
- The power adapter is dissipating heat during normal use, please be sure not to cover it and keep it away from your body to prevent discomfort or injury by heat exposure.
- Please use the power adapter that comes with the product's package, wrong power adapter may damage your device.
- Make sure all the peripherals are properly connected before using NanoPC.
- This product should only be used in an environment with ambient temperatures between 0°C and 40°C.
- Always shut down the computer before installing or uninstalling the peripheral which does not support hot plug.
- Disconnect all peripherals before servicing or disassembling this equipment.
- Please do not disassemble this product by yourself, any disassembly not approved by the original manufacturer may result in malfunction, and void warranty.
- Risk of explosion if battery is replaced by an incorrect type, please dispose of used batteries according to the instructions.

## Package Contents

| | | |
|---|---|---|
|  |  |  |
| NanoPC | Seat Base | VESA Mount |
|  |  | Quick Installation |
| Power Adapter | Power Cord | Easy Guide |
| NanoPC 4GB |  |  |
| USB Flash Disk | Screws and Mini PCIe Half Card Support Bracket | DVI-VGA Adapter |

**NOTE**  We DO NOT guarantee it is in compliance with the Safety Certificates if you add on an extension cable to NanoPC USB Flash Disk in the package.

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# Introduction

■ Front Side View
■ Back Side View

## 1-1 Front Side View

| 1 | ⏻ | Power button with Power indicator LED<br>Press to turn your NanoPC on or off, the LED can indicate your system states. |
|---|---|---|
| 2 | | Speaker |
| 3 | SS⟷3.0 | USB 3.0 port<br>This USB port supports the USB 3.0/2.0/1.0 specification. Use this port for USB devices such as keyboard, mouse, USB printer, USB flash drives and hard disk drives, etc.<br>You need to install the USB 3.0 driver in NanoPC USB Disk before using it. |
| 4 | MS/SD/MMC | Multi-Function card reader<br>This memory card reader supports SD/SDHC/MS/MS Pro/MMC memory cards used in devices like digital cameras, mobile phones, Media players and so on. |
| 5 | 🎤 | Microphone / SPDIF in port<br>Connects to a microphone or playback devices with optical connectors (3.5mm jack).<br>SPDIF function requires additional adapter and adapter cable. |
| 6 | 🎧 | Headphone<br>Connects to a headphone. |
| 7 | | Kensington lock<br>Attach a Kensington security system or a compatible security lock to secure your NanoPC in place. |

## 1-2 Back Side View

| 1 | USB 2.0 | USB 2.0 port<br>This USB port supports the USB 2.0/1.0 specification. Use this port for USB devices such as keyboard, mouse, USB printer, USB flash drives and hard disk drives, etc. |
|---|---|---|
| 2 | DVI | DVI port<br>Connect monitor or TV that uses DVI connector to this port.<br>By using the DVI to VGA adapter that comes with your product, you can also connect a VGA-compatible devices such as a monitor or projector. |
| 3 | HDMI | HDMI port<br>The HDMI (High-Definition Multimedia Interface) port supports Full-HD display devices.<br>Connect monitor or TV that uses HDMI connector to this port. |
| 4 | | RJ-45 LAN port<br>Supports 10/100/1000Mb/s Ethernet network.<br>Connect network cable to access Internet. |
| 5 | | Line out / SPDIF out port<br>Connects to powered analog speakers or recording devices with optical connectors (3.5mm jack).<br>SPDIF function requires additional adapter and adapter cable. |
| 6 | DCIN | Power input port<br>Connect power cord that come with your product. |

# Placement and connecting

- Placement of NanoPC
- Connection of NanoPC

## 2-1  Placement of NanoPC

**Erected on the desk**

1. Place your NanoPC into the groove of the Seat Base.
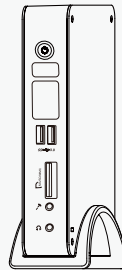


**Installing to Display**

1. Assemble one side of the VESA mount.
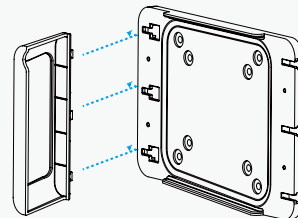
2. Fasten it onto the display with four screws.
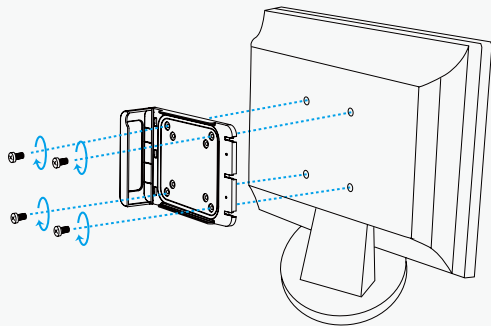


3. Fit the NanoPC into the VESA mount in the correct alignment.
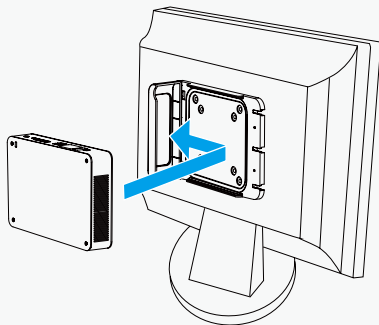
4. Install the other side of the VESA mount.
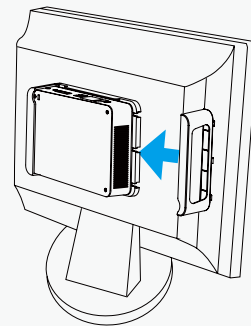


**NOTE** To fasten the VESA mount, your display must comply with VESA75 or VESA100 standard.

## 2-2  Connection of NanoPC

### Connect display

Connect a display or TV that has HDMI port or DVI / VGA port to your NanoPC.
You can connect a VGA display to the DVI port by using the DVI-VGA adapter.
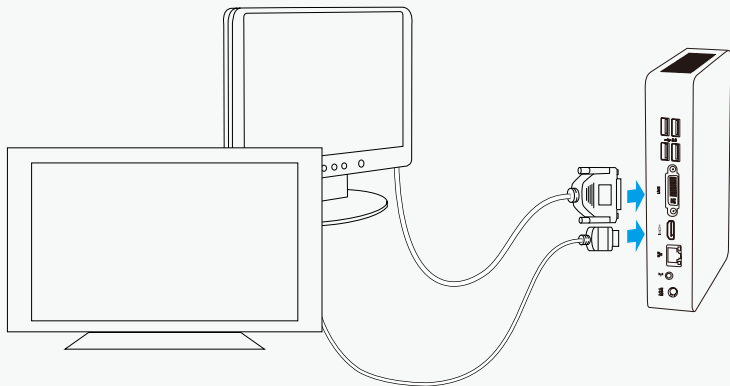


**NOTE**
- Please use the customized DVI-VGA Adapter that comes with your NanoPC to get a higher resolution on your VGA display.
- You could have access to display adjustment for some HDTV or HD display connected via HDMI port by using the scaling function in "AMD VISION Engine Center", a utility, which is available after the installation of AMD Chipset Driver. And you can initiate this utility by first right-clicking on Desktop and selecting it, then further choosing "Scaling Options(Digital Flat-Panel)" in "My Digital Flat-Panels".

### Connect USB devices

Connect USB devices to the USB ports, for example, mouse, keyboard devices.
There are two USB 3.0 ports on the front side of your NanoPC, you need to install the USB 3.0 driver in NanoPC USB disk before using them.
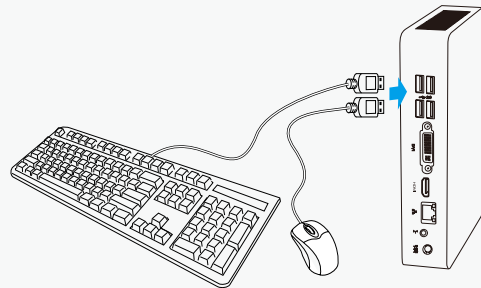


### Connect network cable

Connect one end of a network cable to the RJ-45 LAN port, and the other end to a hub or switch.
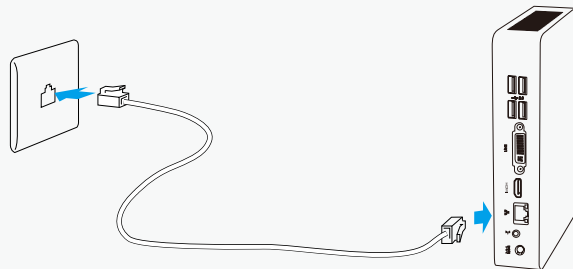
## Connect power cord

Connect the power adapter to the power input port of the NanoPC, and then press the power button to start it.
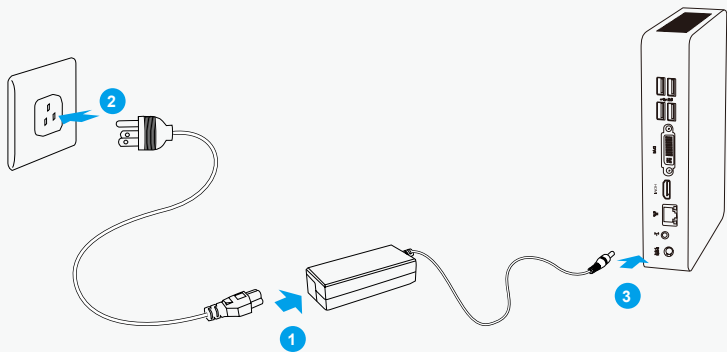


⚠️ CAUTION The power adapter is dissipating heat during normal use, please do not cover it and keep it away from your body to prevent injury from heat exposure.

# BIOS Setup

- Enter BIOS Setup
- Main
- Advanced
- Boot
- Security
- Save & Exit

## Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the message
          "Press <Del> or <F2> to enter setup. Press <F11> to enter boot menu."
appears at the bottom of the screen, you can press <Del> or <F2> key to enter Setup.

> **NOTE** We do not suggest that you change the default values in the BIOS Setup, and we shall not be responsible for any damage which resulted from the change you made.

Use the arrow right/left keys to select a specific function and go to the submenu. Each function is explained below:

Main
  It displays the basic system configuration, such as CPU Name, memory size, system date, time and so on. They all can be viewed or set up through this menu.

Advanced
  The advanced system features can be set up through this menu.

Boot
  Boot features can be set up through this menu. You can set the boot device priority and enable "Quiet Boot" feature here.

Security
  The Administrator/User password can be set up through this menu to prevent unauthorized use of your computer. If you set a password, the system will ask you to key in correct password before boot or access to Setup.

Save&Exit
  The optimal performance settings can be loaded through this menu. However, it may offer better performance in some ways (such as less I/O cards, less memory ...etc.),  still, it may cause problem if you have more memory or I/O cards installed. It means, if your system loading is heavy, set to optimal default may sometimes come out an unstable system. What you need now is to adjust BIOS setting one by one, trial and error, to find out the best setting for your current system. You also can save or discard the changes and exit BIOS setup here.

## Main

```
                    Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
   Main  Advanced  Boot  Security  Save & Exit

   BIOS Information                                            Set the Date. Use Tab to
   BIOS Vendor                      American Megatrends        switch between Date elements.
   BIOS Build Date                  10/26/2012 13:37:02
   Embedded Control Version         12.F1.03
   System BIOS Version              C72F1PO2

   CPU Information
   AMD C-70 APU with Radeon(tm) HD Graphics
   Processor Speed                  1000 MHz
   Microcode Revision               500010d

   Memory Information
   Total Memory                     2048 MB (DDR3 1066)

   System Date                      [Fri 10/26/2012]          →←: Select Screen
   System Time                      [14:21:24]                ↑↓: Select Item
                                                              Enter: Select
   Access Level                     Administrator             +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

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```

► System Date
  <weekday><month><date> <year> format.
  Day—weekday from Sun. to Sat., this message is automatically displayed by BIOS (Read Only).
  Month—month from 1 to 12.
  Date—date from 1 to 31.
  Year—year, set up by users.
  Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.
► System Time
  This item allows you to configure the desired time. Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.
  The three fields of the setting are <hour> : <minute> : <second> respectively.
► Access Level
  It displays your current access level. If you enter system with a user password, it will display "User". If

no password is set or you enter system with administrator password, this item will display "Administrator".

## Advanced

```
Aptio Setup Utility-Copyright (C) 2012 American Megatrends, Inc.
 Main  Advanced  Boot  Security  Save & Exit

SATA Mode                      [AHCI Mode]        Select the SATA Mode
Deep Sleep Support             [Enabled]
 USB 2.0 Port S3 Wakeup        [Enabled]          Option:
 LAN / USB 3.0 Port S3 Wakeup  [Enabled]          (1) IDE Mode
Restore on AC Power Loss       [Last State]       (2) AHCI Mode
Supporting C6 power state      [Disabled]
Integrated GPU UMA Frame Buffer [Auto]




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



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```

► SATA  Mode
   This  item is used to set the operation mode of your SATA ports.
   [IDE Mode] - This configures the SATA ports to support IDE mode.
   [AHCI Mode] - The Advanced Host Controller Interface (AHCI) specification describes the register level interface for a Host Controller for Serial ATA. The specification includes a description of the hardware/software interface between system software and the host controller hardware. AHCI provides more advanced features including SATA features, but some SATA drives may not support AHCI, unless they are labeled with AHCI support in its specification.
   If your motherboard supporting AHCI, and you have a SATA device, which also supports AHCI, then

you can select IDE option to have fair performance, or you can select AHCI to get its best performance.

NOTE  AHCI mode is not available under Windows XP,  please select IDE mode.

► Deep Sleep Support
   This item is used to enable or disable Deep Sleep Support function. When entering deep sleep mode system(S4/S5) only can wake up from power button.
► USB 2.0 Port S3 Wakeup
   This item is used to enable/disable the USB 2.0 device(s) to generate a wake up from S3 state.
► LAN / USB 3.0 Port S3 Wakeup
   This item is used to enable/disable the LAN/USB 3.0 device(s) to generate a wake up from S3 state.
► Restore on AC Power Loss
   This item is used to set which state the PC will take with when it resumes after an AC power loss.
► Supporting C6 Power state
   This item is used to enable or disable the supporting C6 power state.
► Integrated GPU UMA Frame Buffer
   Allocates system memory for use as video memory to ensure the most efficient use of available resources for maximum 2D/3D graphics performance.
   This is a memory allocation method addition to the Unified Memory Architecture (UMA) concept, wherein a static amount of page-locked graphics memory is allocated during driver initialization. This fixed amount of memory will provide the user with a guaranteed graphics memory at all times, and will no longer be available to the OS.

## Boot

```
                Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
     Main  Advanced  Boot  Security  Save & Exit

     Boot Configuration                                      Select the keyboard NumLock
     Bootup NumLock State            [On]                    state
     Quiet Boot                      [Disabled]
     Fast Boot                       [Enabled]
     Lanch CSM                       [Enabled]
       Lanch LAN OpROM policy        [Do not launch]
     Built-in EFI Shell Support      [Disabled]

     Boot Option Priorities



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


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```

► Bootup Numlock State

This item defines if the keyboard Num Lock key is active when your system is started. The available settings are: On (default) and Off.

► Quiet Boot

This item is used to enable/disable the quiet boot.

[Disabled] : Displays the normal POST messages.

[Enabled] : Displays OEM customer logo instead of POST messages.

► Fast Boot

While Enabled, this option allows BIOS to skip certain tests while booting, this will shorten the time needed to boot the system.

► Launch CSM

This item controls if CSM will be launched.

► Launch LAN OpROM policy

This item controls the execution of UEFI and Legacy PXE OpROM.

► Built-in EFI Shell Support

This item is used to control whether the "Built-in EFI Shell" appears in the Boot Option.

You can set the "Built-in EFI Shell" option boot priority in "Boot Option Priorities" listing when this item is set to [Enabled].

► Boot Option Priorities

These items are used to set the system boot order.

## Security

```
Aptio Setup Utility-Copyright (C) 2012 American Megatrends, Inc.
 Main  Advanced  Boot  Security  Save & Exit

  Password Description                              Set Administrator Password

  If ONLY the Administrator's paeeword is set,
  then this only limits access to Setup and is
  only asked for when entering Setup.
  If ONLY the user's password is set, then this
  is a power on password and must be entered to
  boot or enter Setup. In Setup the user will
  have Administrator right.
  The password length must be
  in the following range:
  Minimum length            4
  maximum length            20
                                                  →←: Select Screen
  Administrator Password                          ↑↓: Select Item
  User Password                                   Enter: Select
                                                  +/-: Change Opt.
                                                  F1: General Help
                                                  F2: Previous Values
                                                  F3: Optimized Defaults
                                                  F4: Save & Exit
                                                  ESC: Exit


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```
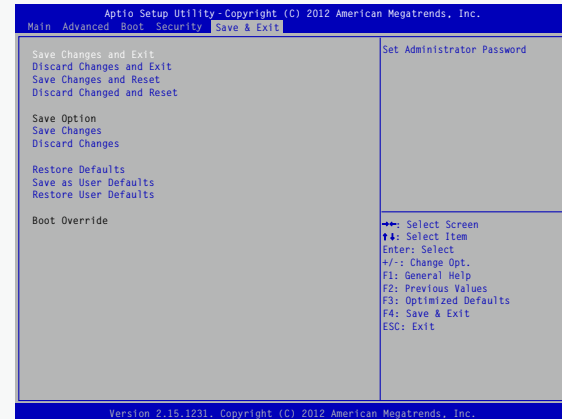
► Administrator Password

This item is used to install or change administrator password.

After you input administrator password, it then will ask you to confirm the password.

► User Password

This item is used to install or change user password.

## Save & Exit

```
Aptio Setup Utility-Copyright (C) 2012 American Megatrends, Inc.
 Main  Advanced  Boot  Security  Save & Exit

  Save Changes and Exit                             Set Administrator Password
  Discard Changes and Exit
  Save Changes and Reset
  Discard Changed and Reset

  Save Option
  Save Changes
  Discard Changes

  Restore Defaults
  Save as User Defaults
  Restore User Defaults

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


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```

► Save Changes and Exit

If you select this option and press <Enter>, a message will be displayed in the screen.

Select [Yes] to save your changes and exit, select [No] or <ESC> to return to the main menu.

► Discard Changes and Exit

If you select this option and press <Enter>, a message will be displayed in the screen.

Select [Yes] to exit setup utility without saving your modifications, select [No] or <ESC> to return to the main menu.

► Save Changes and Reset

If you select this option and press <Enter>, a message will be displayed in the screen.

Select [Yes] to save your changes and reset computer, select [No] or <ESC> to return to the main menu.

► Discard Changes and Reset

If you select this option and press <Enter>, a message will be displayed in the screen.

Select [Yes] to exit setup utility and reset computer without saving your modifications, select [No] or <ESC> to return to the main menu.

► Save Changes

If you select this option and press <Enter>, a message will be displayed in the center of the screen. Select [Yes] to save your changes, select [No] or <ESC> to return to the main menu.

► Discard Changes

If you select this option and press <Enter>, a message will be displayed in the center of the screen. Select [Yes] to discard your modifications, select [No] or <ESC> to return to the main menu.

► Restore Defaults

Optimal defaults are the best settings of this motherboard.

Always load the Optimal defaults after updating the BIOS or after clearing the CMOS values. Select this option and press Enter, it will pop out a dialogue box to let you load the defaults. Select <Yes> and then press <Enter> to load the defaults. Select <No> and press <Enter>, it will not load. By this default, BIOS have set the optimal performance parameters of system to improve the performances of system components. But if the optimal performance parameters to be set cannot be supported by your hardware devices (for example, too many expansion cards were installed), the system might fail to work.

► Save as User Defaults

If you select this option and press <Enter>, a message will be displayed in the screen. Select [Yes] to save the changes done so far as user defaults, select [No] or <ESC> to return to the main menu.

► Restore User Defaults

If you select this option and press <Enter>, a message will be displayed in the screen. Select [Yes] to restore/load the user defaults to all the setup options, select [No] or <ESC> to return to the main menu.

► Boot Override

BIOS auto detect the presence of connected devices, select the device you want to boot from and press <Enter>, then the system will directly boot from the selected devices.

# Install OS

■ Install Windows 7/8
■ Install Drivers

What kinds of hardware and software you need here:
1. Windows 7/8 Install USB Disk / USB DVD-ROM drive and Windows 7/8 Install CD (Other purchase)
2. NanoPC USB Flash Disk (In this package)

> 📝 **NOTE** Windows 7(32-bit/64-bit) and Windows 8(32-bit) can't be installed when "Launch CSM" is set to "Disabled" in the BIOS setup.

## 4-1 Install Windows 7/8

1. Connect the Windows 7/8 Install USB Disk (or USB DVD-ROM drive) to one USB port of NanoPC.
2. Press power on button to turn on your computer.
3. Put the Windows 7/8 Install CD into the USB DVD-ROM drive if you use the USB DVD-ROM drive.
4. Computer will choose the boot device by BIOS default and start loading the files for installing the OS.

> 📝 **NOTE** Please press <Del> or <F2> key to enter BIOS Setup if you want to change the first boot device for installing the OS.

5. When the installation windows popup, set the related items and click "Next" to continue, then click "Install now" button to start the setup.
6. When the license terms appear, choose accept and click "Next" to continue.
7. It will then ask you to select the installation type. Click "Custom (advanced)" to install a new copy of Windows.
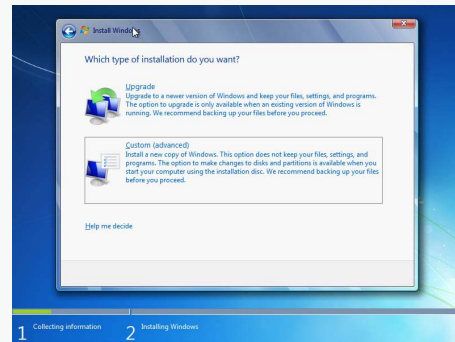
8. The setup will the display the hard disk partitions (160GB, in this example) of your system. If there were other systems (such as Linux) installed previously, you need select them and click "Drive options (advanced)" to delete them. When all partitions are clean, setup will display the biggest size of your hard drive.
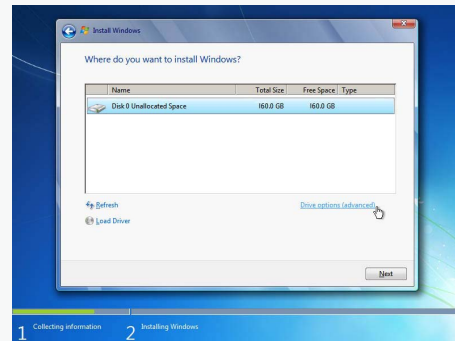
9. In the hard disk size screen, you can click the "new" button to create partitions as you need.
In this example we are creating a 70GB partition to install Windows. Make your modifications and click "Apply".
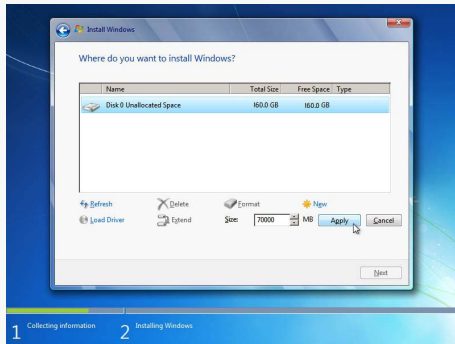


To ensure that all Windows features work correctly, Windows might create additional partitions for system files. So you will see a 100MB partition reserved by system after you create a partition. Select the 70GB partition and click "Next" to continue.
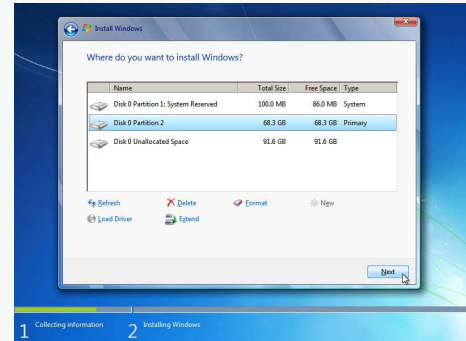
10. The setup program will then start to install Windows 7/8 on your hard disk. During the installation, your computer will restart several times.
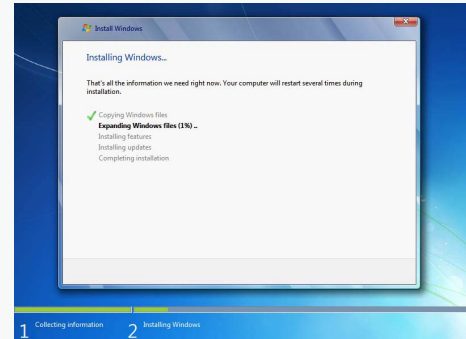
11. When the installation is complete, setup will prepare your computer for it's first use. You can then follow the steps to select system settings, create an account, set a password...etc, until the whole process is completed.

## 4-2 Install Drivers

1. When the Windows 7/8 is completely installed, you have to install the necessary drivers before using the NanoPC. Connect the NanoPC USB Flash Disk to your system.
2. Waiting for a few seconds, the main menu will be displayed on the screen.



3. Use these options to install all the drivers for your system. You must click "AMD Chipset Driver" to install it first. After that, you can click "One Click Setup" and then choose the items you want to install, or you can click on each individual driver to install it manually.
4. After installing all the drivers, you need to restart your NanoPC, then you can start using it.

# Utility
■ Fox WINFLASH

## Fox WINFLASH

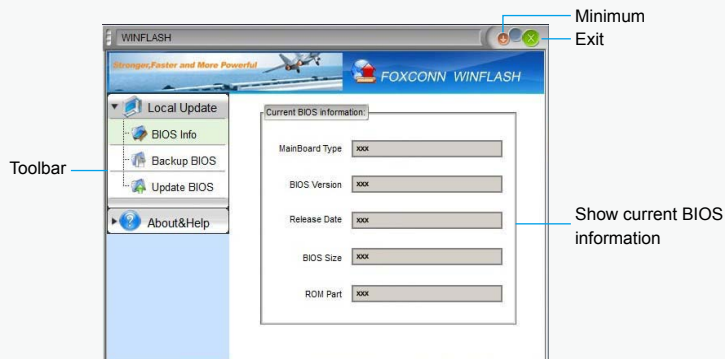Fox WINFLASH is a useful utility to backup and update your system BIOS.

Supporting Operating Systems:
- Windows XP (32-bit/64-bit)
- Windows 7 (32-bit/64-bit)
- Windows 8 (32-bit/64-bit)

### 1. Local Update
1-1 Local Update - BIOS Information
   This page lets you know your system BIOS information.

Minimum

Exit

Toolbar

Show current BIOS information

Note: BIOS Size 32Mb = 32M bit = 4M Byte
      BIOS Size 16Mb = 16M bit = 2M Byte
Please refer to the physical motherboard for details.

1-2 Local Update - Backup BIOS
   This page can back up your system BIOS. You can click "Backup BIOS", and key in a file name, then click "Save" to finish the backup operation. The extension of this backup file is ".ROM" for AMI BIOS. Make sure you can remember the file name together with the directory which it is stored, prevented that you may need them to recover your BIOS later.

Key in a BIOS name

Click to Save
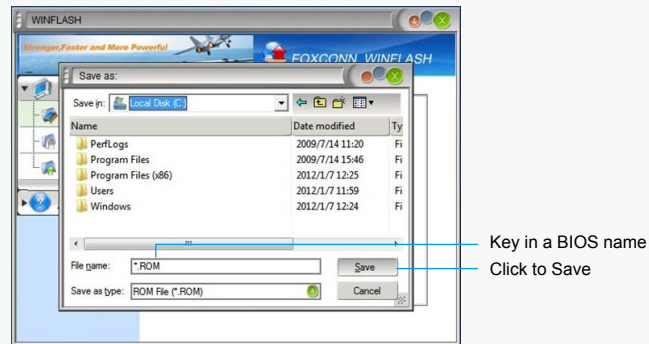
1-3 Local Update - Update BIOS
   This page helps you to update your BIOS from a local file. After click "Update BIOS", An alert message will be displayed to ensure if you really want to continue, click "Yes" to confirm. A setup wizard will guide you to load a local BIOS file to finish the operation. You must remember from which directory to load your new BIOS file (with an extension of ".ROM" for AMI BIOS) before the setup wizard starts.
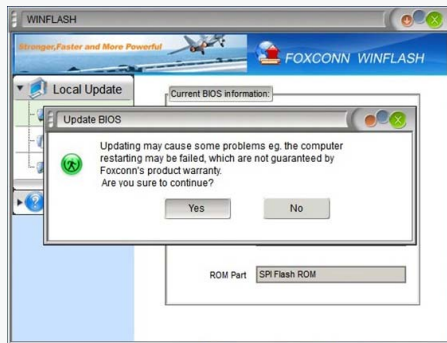
**2. About & Help**

This page shows some information about Fox WINFLASH.
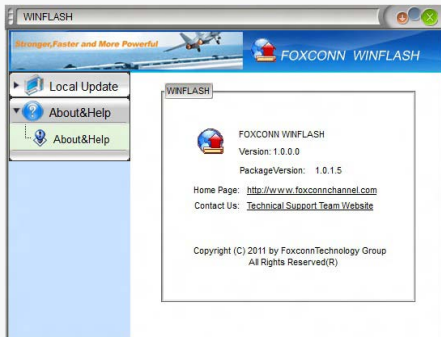


**Statement:**

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.

**Warning:**

**FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT**

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.

**Caution:**

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

**RF exposure warning:**

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

**Warning statement for Europe:**

Also, put in the manual which directive to fulfil and also which countries to sell the product.

Example of a text to tell which directive has been fulfilled:

Hereby, Foxconn, declares that this AT-5000 Series is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC."