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DIN PC-333x Series

User's Guide

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Safety Information

WARNING

- Do not expose the DIN PC to rain or moisture, in order to prevent shock and fire hazard.
- Never install the DIN PC in wet locations.
- Do not open the cabinet to avoid electrical shock. Refer to your nearest dealer for qualified personnel servicing.
- Never touch un-insulated terminals or wire unless power of the DIN PC and display monitor are disconnected.
- Locate the DIN PC as close as possible to the socket outline for easy access and to avoid force caused by entangling of your arms with surrounding cables from the DIN PC.
- When using the DIN PC, avoid using or installing the modem to the serial port during a storm or a lightning.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- USB connectors are supplied with Limited Power Sources.

DO NOT ATTEMPT TO OPEN OR TO DISASSEMBLE THE CHASSIS (ENCASING) OF THIS PRODUCT. PLEASE CONTACT YOUR NEAREST DEALER FOR SERVICING FROM QUALIFIED TECHNICIAN.

Regulatory

FCC Class A Note

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 in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with your installation.

WARNING

This product complies with EN55022 class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference - causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Manufacturer's Declaration of Conformity

This equipment has been tested and found to comply with the requirements of European Community Council Directives 89/336/EEC and 73/23/EEC relating to electromagnetic compatibility and product safety respectively.

Attention

This product has been designed and certified to comply with certain regulatory requirements pertaining to Information Technology Equipment. This product has not been designed for use as a medical device. Without limitation of the foregoing, it is not intended and has not been certified for use in a hospital or clinical environment to diagnose, treat, or monitor patients under medical supervision, and is not intended and has not been certified to make physical or electrical contact with patients, nor to transfer energy to or from patients and/or to detect such energy transfer to or from patients.

Purchase Agreement

Purpose:

In accordance to the general commercial conduct of Trust and Fair Trade, herewith below is the agreement for the protection for both parties, DMP and Users in pursuant of trading.

Product Description:

With this product, herewith also known as DIN PC-333x Series, which is a simplified & an economical design of an embedded device for Special Purpose Personal Computing. The basic specification of this product is comprised of the x86 technology design, and with onboard 1GB/ 2GB DDR2 System memory, VGA display, USB, and LAN Interfaces.

Distribution Convention:

1. This Product includes a gift box, an inner case, a PC, and a pluggable Terminal Block. Upon receiving this product, kindly please refer to the User' Manual to check for the contents and appearance of this product; contact immediately your nearest dealer or DMP branch office if any defective or missing parts found. The supplier will not be responsible for any reported discrepancy there after the expiration period of 3-days from the received date.

2. In consideration of transportation and the cost of storage, the supplier provides to the distributors a warranty of 12-months. This warranty covers the failure caused by hardware breakdown (excluding hard drives), but does not cover the act of misuse and mishandling.

3. The supplier will not accept unknown post, therefore if you wish to repair or to return your goods – kindly please contact your nearest dealer to make your declaration, and at the same time, apply for an RMA number (RMA stands for Return Merchandise Authorization – please ask for RMA form and fill-up for authorization).

4. The freight for return goods for repair will follow the International customary practice and convention: Both parties are to pay for freight of one shipment each. The shipper is required to prepay the freight from the place of origin (This means that the returnee (user) covers the freight for return goods, while the Supplier covers the freight for goods after the repair).

5. Obsolete warranty is referred to as: (1) Expiration of warranty or (2) Damage due to misuse within warranty. The Supplier will be taken into consideration of the circumstances, to provide repair service with charges expense for obsolete warranty. This expense includes the cost of material and the cost of labor.

Note: If there are other particular issues not listed in the above conditions, both parties agree to follow the General Law of Commerce with fair and reasonable discussion in handling and resolving the argument.

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Chapter 1

Unpacking Your DIN PC

Congratulation! You have just acquired DIN PC-333x Series device, please check the following items:

Packing List

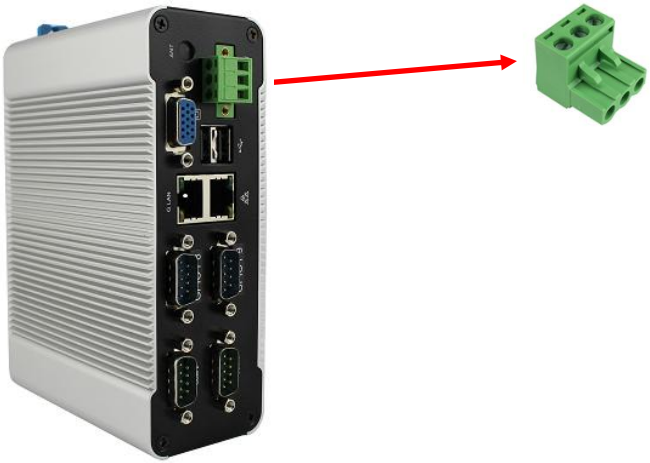
Item No.	Description	Q'ty
1	DIN PC-333x Series DIN Rail Mountable PC	1x
2	3-Pin Plug-In Type Vertical Terminal Block	1x

Note: The accessories are subject to change without immediate notice.

Check Before Use

1. DIN PC-333x Series Unit

2. 3-Pin Terminal Block



Preface

DIN PC-333x Series: DIN Rail Mounted Mini PC

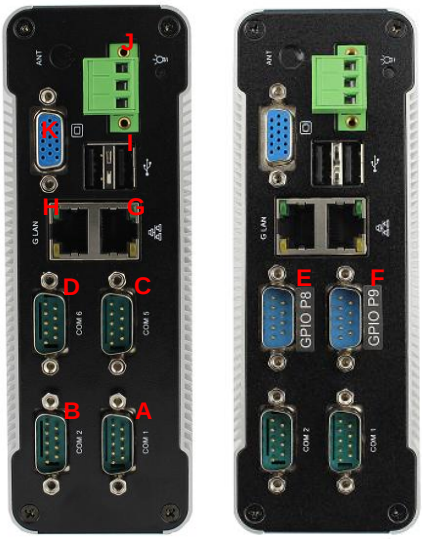
The DIN PC-333x Series is an innovative device that provides a perfect balance between performance and energy efficiency. The DIN PC-333x is Fanless designed with wide operating temperature range of up to 50°C, making it suitable in warehouse and factory environments.

The DIN PC-333x Series features DMP ultra low power 933MHz Vortex86DX2 CPU, Onboard 1GB/ 2GB DDR2 RAM, two independent Ethernet, and various I/O ports. Supported operating systems such as Microsoft Windows Embedded and Linux OS, users can integrate applications easily with a platform that provides versatile functions to fulfill diverse requirements.

With compact dimensions of 152 x 104 x 54 mm (W x H x D), the DIN PC-333x Series fits in small control boxes, as well as directly in a machine or the machine stand. With DIN rail form factor, it supports DIN rail in top hat rail section EN 50022 version. All DIN PC-333x Series' interfaces are on the front side, so it can be cabled up easily. The DIN PC-333x Series is an ideal choice as the front end embedded controllers for industrial automation applications.

Chapter 2

DIN PC-333x Series Overview



Front Panel

A: COM1 Port
RS-232/ RS-422/ RS485 port

B: COM2 Port
RS-232/ RS-422/ RS485 port

C & D: COM5 & COM6 Port
RS-232 port x 2

E & F: GPIO P8 & P9
8-bit GPIO port x 2
Available in DIN PC-333x Series GPIO Version

G: RJ-45 LAN
10/100 Mbps

H: RJ-45 G LAN
1 Gbps

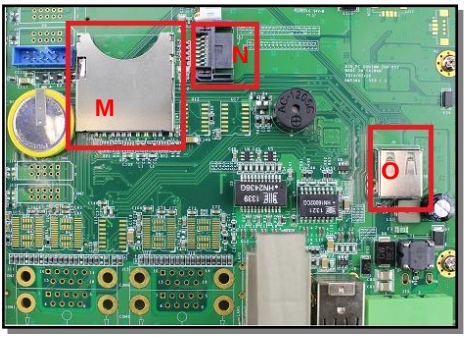
I: USB V2.0 Port x 2
For connection to devices with USB interface (HDD, CD/ DVD-ROM, Memory Stick, etc.)

J: Terminal Block Header
3-Pin pluggable type 5.00 mm Pitch

K: VGA Port
Integrated Graphics Chip/ D-Sub 15-Pin

Rear Panel

L: DIN Rail Mounting Clip



Inside DIN PC-333x Series

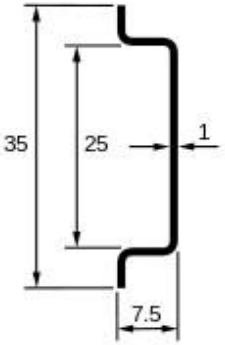
M: SD Card Slot
This system is bootable from SD card

N: 7-Pin SATA DOM Socket
Reserved for SATA DOM

O: USB V2.0 Port
Reserve for WiFi Dongle

DIN Rail Information

DIN PC-333x Series supports DIN rail in top hat rail section EN 50022 version. Please see dimension (mm) in picture shown below:



System Specification

CPU

Vortex86DX2 (933 MHz)

Main Memory

1GB DDR2

(32-bit DRAM bus, DIN PC-3330 Series)

2GB DDR2

(32-bit DRAM bus, DIN PC-3332 Series)

※ For Windows 7 users, DIN PC-333x Series supports 32-bit version only, 64-bit version does not support

BIOS

AMI BIOS

VGA

Resolution up to 1920 x 1440 High Colors

On-Board SATA

SATA 2.0 connector x1 (Internal)

Peripheral

1. USB V2.0 port x 3 (External x 2/ Internal x 1)
2. SD Card slot x 1 (Internal)
3. Serial port x 4 (available in RS-232/ RS-422/ RS-485/ GPIO port, configuration varies from port to port, check page 23 to 26 for details)

Dimension & Weight

152 x 104 x 54 mm/ 760g

Operating System

Windows 7 Home/ Pro.

Windows 7 Embedded

Windows XP Home/ Pro.

Windows XP Embedded

Windows Embedded CE

Supported Linux Distribution list

Gentoo 4.2

Ubuntu 10.04

Debian 4.0

OpenSUSE 11.4

Fedora Core 5

Whattos Warp30 (Ubuntu 8.10 base)

Peripherals

Connecting the Power Adaptor

A: 3-Pin 5.00 mm Pitch Terminal Block

To use DIN PC-333x Series immediately, please attach the Plug-In type Terminal Block with power DC +8V ~ +24V

Note: DIN PC-333x Series supports Auto Power On function, when power & switch on, the system will be turned on automatically

Connecting the Monitor

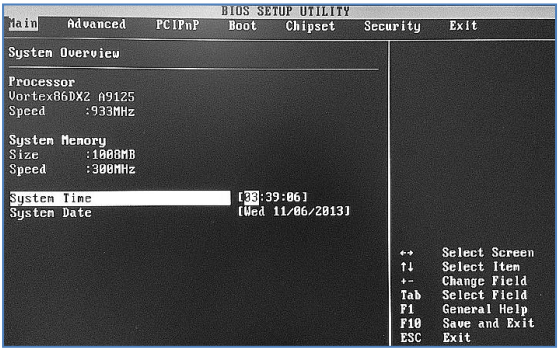
B: VGA out Connection

Connect your LCD display Monitor with a VGA cable (It is not included in DIN PC-333x Series console bundles) to the 15-pin D-Sub VGA port

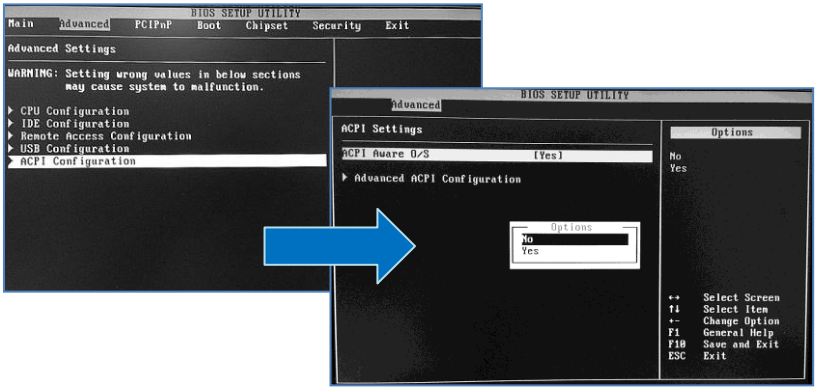
Chapter 3

BIOS Reconfiguring

1. AMI BIOS is used in the DIN PC-333x Series. To reconfigure the DIN PC-333x Series, press or hit the <Del> key to enter your BIOS setup main menu as below:



2. Select from the menu, the desired setup for change.
3. Press <Esc> to go back to main menu.
4. Press <F9> to load factory default setting.
5. Press <F10> to and select "Save Settings and Exit", press "Y" to save the changes that you just made. DIN PC-333x Series will restart accordingly to your new setup.
6. For Windows XP, Windows XP Embedded, and Windows Embedded CE OS platform please set ACPI Configuration to "No".



7. Remark : If you used the SD card as main storage to boot Windows 7 OS or Windows 7 Embedded OS, please set the BIOS as below:
   1. IDE Operating mode => Legacy mode
   2. Primary IDE Pin Select => SD Card
   3. Standard IDE Compatible => Disabled

INSTALL THE DRIVER:

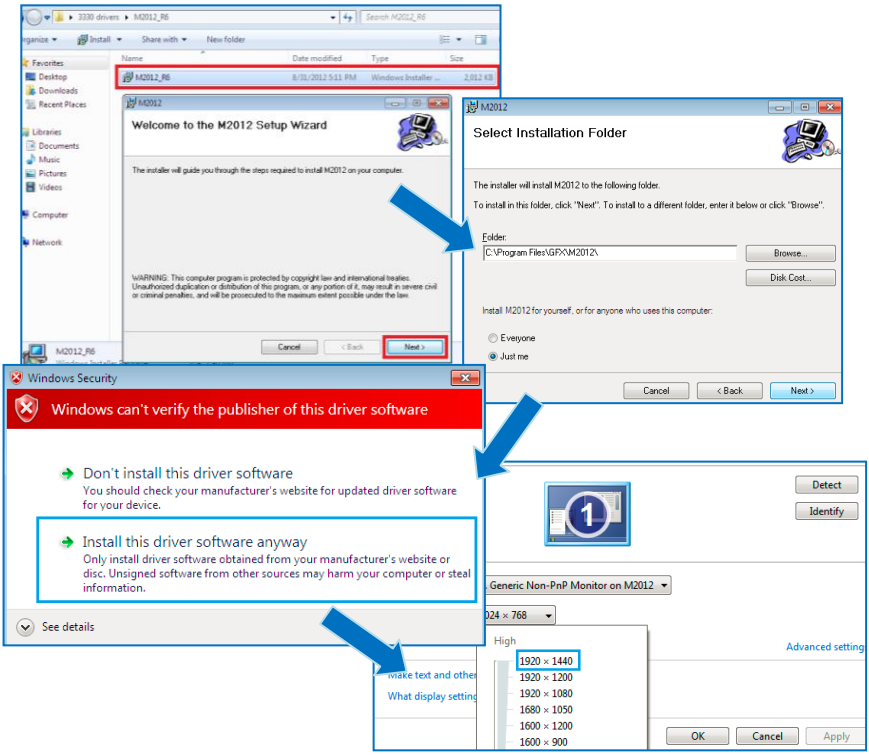
Under the Windows Series OS, the following drivers need to be installed manually:

1. VGA driver
2. Ethernet driver
3. Wireless USB WiFi Dongle driver (Optional)

Note:
Please find the mating drivers from [EBOX support page]

VGA DRIVER:

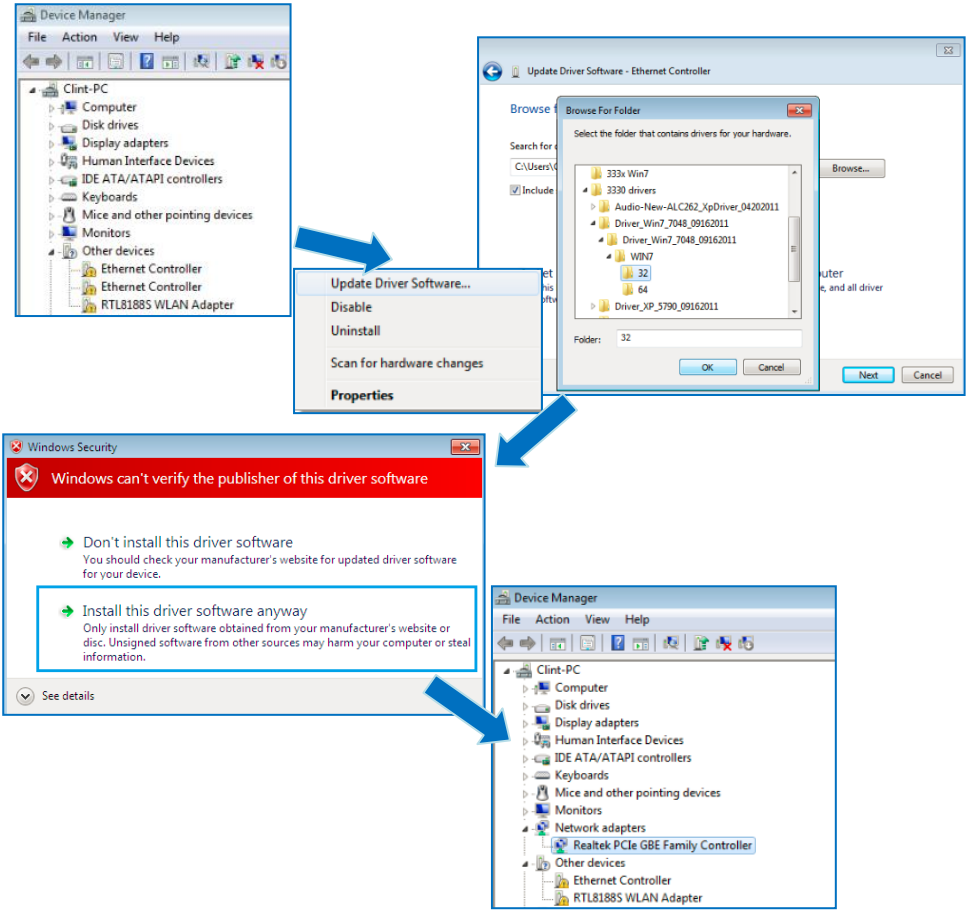
Unzip the downloaded file and double click the setting .exe file, then "Next"as below to install:



After VGA driver installation completed, you will have to restart the computer. Then you will be able to select the resolution up to 1920 x 1440 pixels.

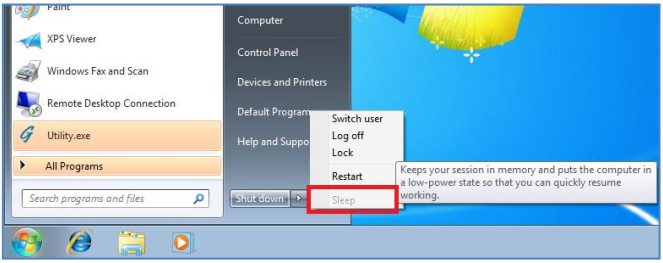
ETHERNET DRIVER:

1. Find the yellow question mark of Ethernet in the Device Manager under the control panel/ system.
2. On 1st question mark update with 10/ 100M LAN driver, right click and select “Update Driver Software” choose the right path, then click “Install this driver software anyway” when Windows Security pops out.
3. After installation completed, the Device Manager will update and show the correct device.
4. Following the procedure above, update 2nd question mark with 1G LAN driver.
5. Following the procedure above, update 3rd question mark with WiFi dongle driver (optional).

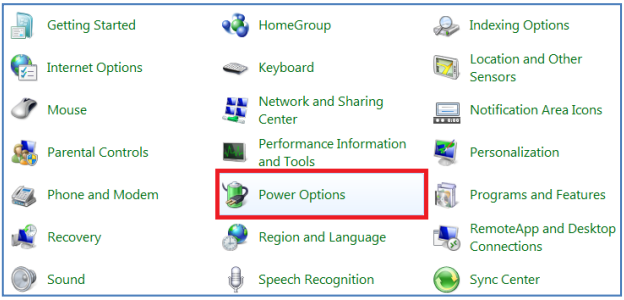


Additional information:

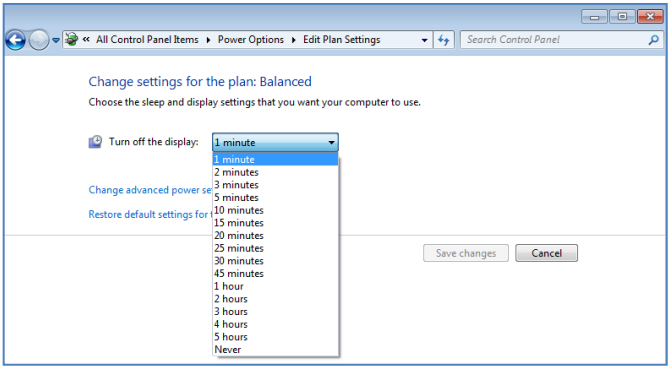
For Windows 7 OS or Windows 7 Embedded OS, the sleep function is hidden if you selected from the start menu.



To customize the settings, first go to **Start** > **Control Panel** > **Power Options**, or simply search for "**Power Options**" (without quotes). You will see a list of different power plans on your computer.



The plan currently in use has a blue dot in front of it. Click "**Change Plan Settings**" next to the power plan currently in use. Click on the drop-down menu list, that is exactly next to "Put the Computer to sleep:". From the options, you can set the amount of idle time before entering sleep mode.



Linux installation For Debian7.0/ Ubuntu10.04

Regarding the system installation of Debian7.0/Ubuntu10.04, please follow the steps and suggestions to complete the system installation on the DIN PC-333x Series platform. There we provided is a brief instruction to assist clients, but you can configure it by yourself with system's asking.

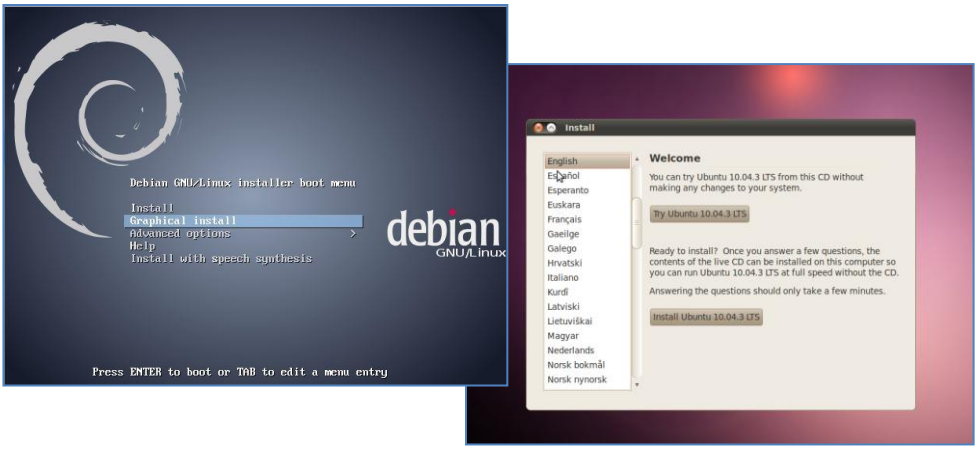
1. Configuration of BIOS

- The first step is to ensure BIOS has correctly configured that necessary function was enabled for IDE device. (for Debian7.0 especially)

- Keep pressing the key <Del> can assist entering BIOS when the power turned on. The BIOS functions you need to check locate Advanced \ IDE Configuration \ Standard IDE Compatible. Set as Enabled.

2. Basic system installation

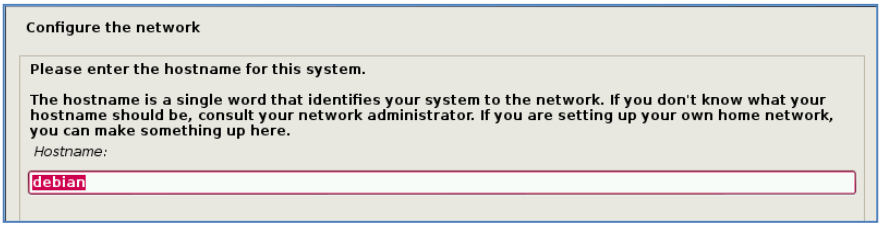
- For Debian7.0, after booting from the installation CD, moving straight to install system would get a text only system, please choose Graphic Install if GUI is necessary for your application.



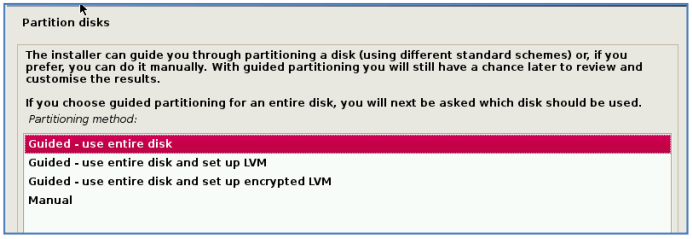
- The system would start to ask questions for basic configuration. Such as the language, keyboard map and time zone, etc.

- Then the system information appears for something about the detecting of network hardware, system requires users to load the firmware files for network device rtl8168, just answer no for this inquiry and move forward.

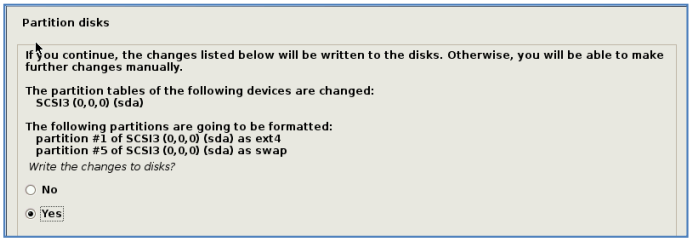
- Then the system would inform you that multiple network interfaces were detected on the DIN PC-333x Series, and the user to choose the one as primary network interface, both of them all could be chosen. And the Ethernet cable must be plugged in this period.



- As installation processing, the system would need you to make decisions about how the partitions your disk for the system? Following the default option is using entire disk, for the beginner. Then choose the “all files in one partition. Other allocation is also available, depends on customers’ needs.

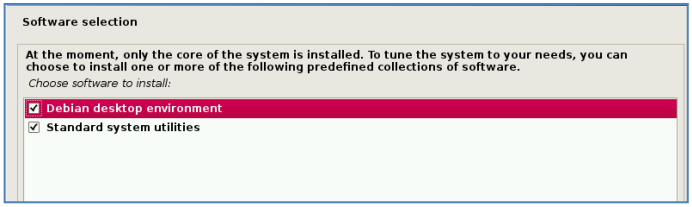


- In the final, remember to write the change to disk.

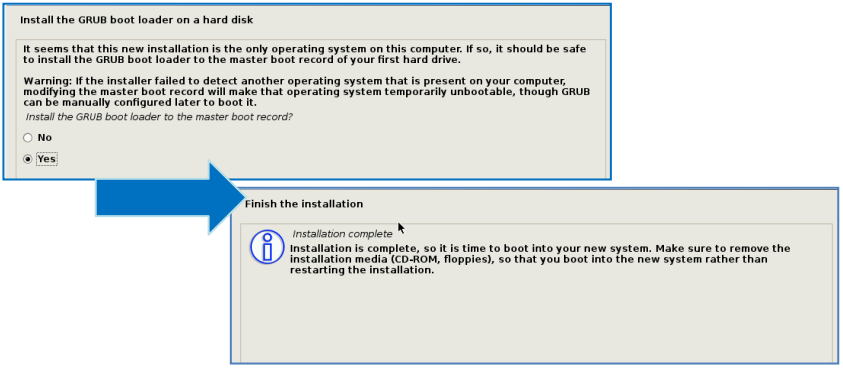


- Then the system would keep asking you few questions for configuration, suggestions were attached as follow.

- When system asking you to choose the software to install for system, you can remark both the Debian desktop environment and standard system utilities, then to continue following procedure. It would start the package installation, around hundred packages would be installed, please be patient until system informed you for the next step.

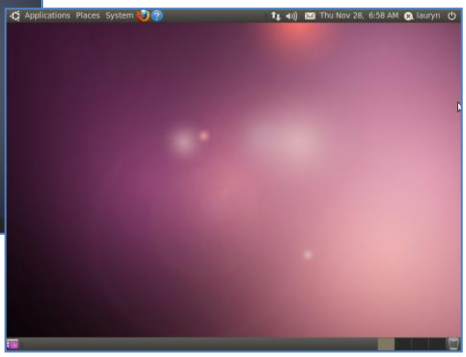


- The next question is about the agreement of the installation of the GRUB boot loader to the MBR area? Answer YES and wait system to complete the installation as last procedure.



- When it's completed, the disc tray will eject and inform you, then press continue to restart and be ready to enjoy the new system!

The Debian7.0



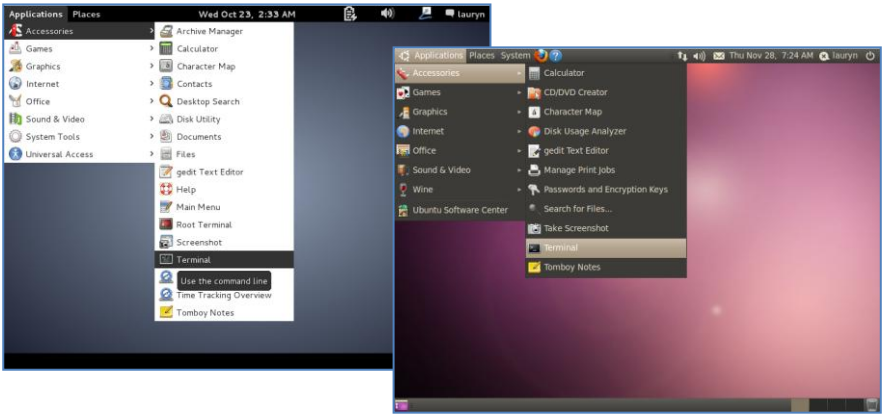
The Ubuntu10.04

3. Kernel and graphic driver installation

Install the Kernel Package (Console mode)

- For Debian7.0, you can skip this procedure for kernel installation; Because system could work with default kernel version (3.2.0).

- Clicking the icon of the terminal from the application. And download the kernel 2.6.32-21 from below link then to store the kernel package.

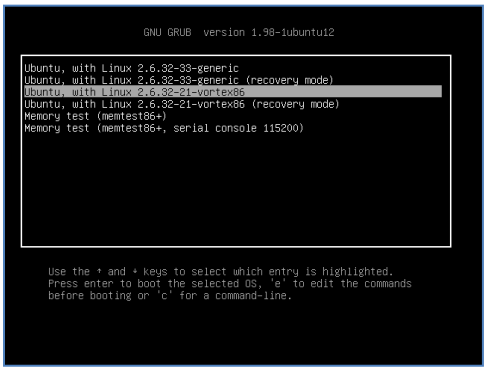


- Follow the instructions to complete the kernel installation, get into the folder that kernel file stored, and switching as the root before command executed.

```
# dpkg -i linux-image-2.6.32-21-vortex86_2.6.32-21.32_i386.deb
```

Kernel Package (click 2.6.32-21-Vortex86)

- When download completed, restart the system and to choose the kernel 2.6.34.10 to boot when GRUB boot loader was loaded. You can keep pressing the key “Shift” when the system from booting, then the boot loader would show the option of kernel for you. Then find the “Ubuntu, With Linux 2.6.32-21-vortex86” to execute.



- Or you can remove the default kernel 2.6.32-??-generic that be arranged as a higher priority than the kernel we installed for the DIN PC-333x platform, with the instruction below through the terminal.

- First, check what version be installed as default in the system:

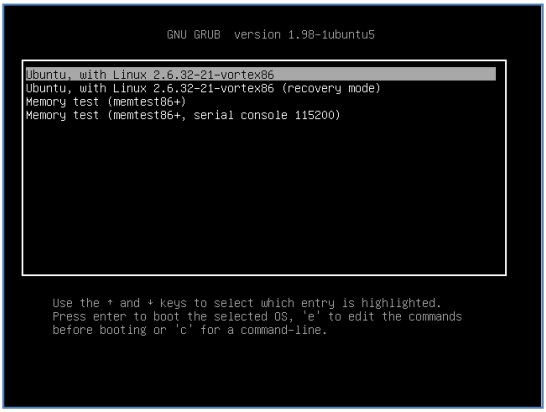
```
# grep –w linux-image-2.6.32 /var/log/dpkg.log
```

- To find the last two numbers as location of question marks that the system shows on screen “linux-image-2.6.32-??

- Then execute it with the correct numbers that you found in previous, and to replace the question mark with correct version numbers shown below.

```
# apt-get remove linux-image-2.6.32-??-generic
```

- Then you would see only one kernel on the GRUB list.



Install the VGA driver (Console mode)

- Switch to console mode by pressing key <Ctrl> + <Alt> + <F1>, then copy the VGA driver rdc_drv.so to the driver folder /usr/lib/xor/modules/drivers/, before that, you can download the driver from links below for Debian7 and Ubuntu10.04 individually.

The Ubuntu10.04 Xorg Version is **1.7.6**
The Debian 7.0 Xorg Version is **1.12.4**

VGA Driver (click M2012_R0.04 to download) for Ubuntu 10.04

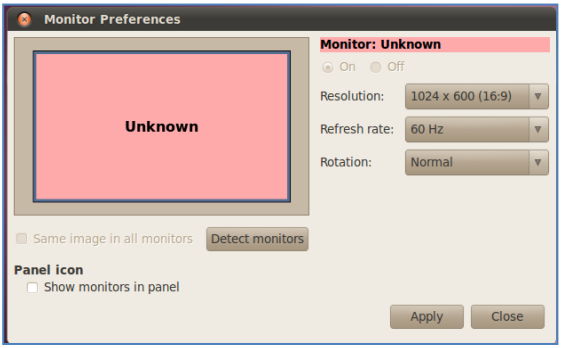
VGA Driver (click M2012_T0.0.9.1 to download) for Debian 7.0

- Follow instruction below to execute.

```
#/etc/init.d/gdm stop
#X –configure
#cp /root/xorg.conf.new /etc/X11/xorg.conf
#/etc/init.d/gdm restart
```

※Please click xorg.conf to download for your system, if the display is out of range.

- Reboot and make sure all the display is normal then set the resolution as requested.



The supported resolutions:

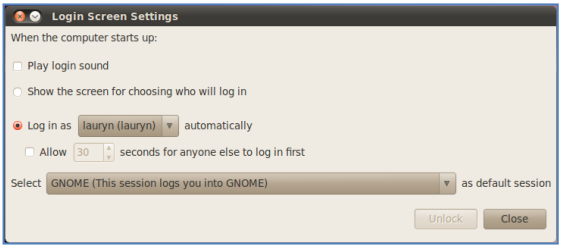
1920x1200 (16:10)	1400x960	1280x768 (16:10)
1920x1080 (16:9)	1280x1024 (5:4)	1280x720 (16:9)
1600x1200 (4:3)	1440x900 (16:10)	1024x768 (4:3)
1680x1050 (16:10)	1280x960 (4:3)	800x600 (4:3)
1400x1050 (4:3)	1366x768 (16:9)	640x480 (4:3)
1440x960 (3:2)	1360x768 (16:9)	

4. The system configuration

Enable the Auto login
System / Administration / Login Screen

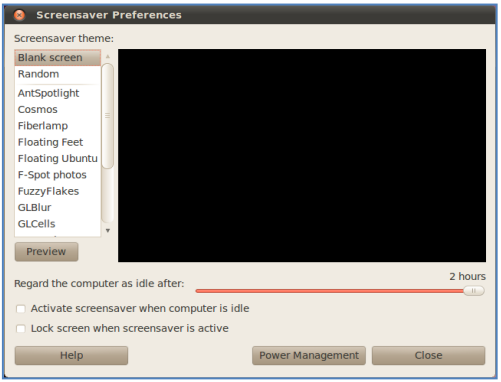
Execute the utility “Login Screen” and enter the password to process it.

Set the Log in as “user account” automatically.



Disable the power saving mode when system idle,
System / Preference / Screensaver

Unmarked the option “Active the screensaver when computer is idle”.



Now, it is a workable Linux system for your DIN PC-333x Series.

Chapter 4

Technical Specification

DIN PC-3330 Series, 1GB RAM, RS-232

Model Type		D-3330-SS	D-3330-C1851	D-3330-C2	D-3330-C4
Processor		Vortex86DX2 (933MHz)			
BIOS		AMI BIOS			
Memory		Onboard 1GB DDR2			
VGA		Integrated Graphics Chip/ D-Sub 15-pin			
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)			
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)			
I/O	SD Slot	1x (Internal)			
	SATA	1x			
	COM1	N/A	RS-232	RS-232	RS-232
	COM2		RS-485	RS-232	RS-232
	COM5		N/A	N/A	RS-232
	COM6				RS-232
Auto Power On		Yes			
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)			
Dimensions		152 x 104 x 54 mm			
Weight		760g			
Operation Temp.		5 ~ 50 ℃			
Certifications		CE, FCC, VCCI, Vibration			
Optional		1. Mic in/ Line out 2. TTL level RS-232 port			

DIN PC-3330 Series, 1GB RAM, RS-485

Model Type		D-3330-851221	D-3330-851221C2	D-3330-852	D-3330-852C2
Processor		Vortex86DX2 (933MHz)			
BIOS		AMI BIOS			
Memory		Onboard 1GB DDR2			
VGA		Integrated Graphics Chip/ D-Sub 15-pin			
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)			
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)			
I/O	SD Slot	1x (Internal)			
	SATA	1x			
	COM1	RS-485	RS-485	RS-485	RS-485
	COM2	RS-422	RS-422	RS-485	RS-485
	COM5	N/A	RS-232	N/A	RS-232
	COM6		RS-232		RS-232
Auto Power On		Yes			
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)			
Dimensions		152 x 104 x 54 mm			
Weight		760g			
Operation Temp.		5 ~ 50 ℃			
Certifications		CE, FCC, VCCI, Vibration			
Optional		1. Mic in/ Line out 2. TTL level RS-232 port			

DIN PC-3330 Series, 1GB RAM, RS-422

Model Type		D-3330-221C1	D-3330-222	D-3330-222C2
Processor		Vortex86DX2 (933MHz)		
BIOS		AMI BIOS		
Memory		Onboard 1GB DDR2		
VGA		Integrated Graphics Chip/ D-Sub 15-pin		
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)		
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)		
I/O	SD Slot	1x (Internal)		
	SATA	1x		
	COM1	RS-422	RS-422	RS-422
	COM2	RS-232	RS-422	RS-422
	COM5	N/A	N/A	RS-232
	COM6			RS-232
Auto Power On		Yes		
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)		
Dimensions		152 x 104 x 54 mm		
Weight		760g		
Operation Temp.		5 ~ 50 ℃		
Certifications		CE, FCC, VCCI, Vibration		
Optional		1. Mic in and Line out 2. TTL level RS-232 port		

DIN PC-3330 Series, 1GB RAM, GPIO

Model Type		D-3330-C2G2	D-3330-852G2	D-3330-222G2	D-3330-851C1G2	D-3330-221C1G2	D-3330-851221G2
Processor		Vortex86DX2 (933MHz)					
BIOS		AMI BIOS					
Memory		Onboard 1GB DDR2					
VGA		Integrated Graphics Chip/ D-Sub 15-pin					
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)					
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)					
I/O	SD Slot	1x (Internal)					
	SATA	1x					
	COM1	RS-232	RS-485	RS-422	RS-485	RS-422	RS-485
	COM2	RS-232	RS-485	RS-422	RS-232	RS-232	RS-422
	GPIO P9	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
	GPIO P8	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
Auto Power On		Yes					
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)					
Dimensions		152 x 104 x 54 mm					
Weight		760g					
Operation Temp.		5 ~ 50 ℃					
Certifications		CE, FCC, VCCI, Vibration					
Optional		1. Mic in and Line out 2. TTL level RS-232 port					

DIN PC-3332 Series, 2GB RAM, RS-232

Model Type		D-3332-SS	D-3332-C1851	D-3332-C2	D-3332-C4
Processor		Vortex86DX2 (933MHz)			
BIOS		AMI BIOS			
Memory		Onboard 2GB DDR2			
VGA		Integrated Graphics Chip/ D-Sub 15-pin			
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)			
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)			
I/O	SD Slot	1x (Internal)			
	SATA	1x			
	COM1	N/A	RS-232	RS-232	RS-232
	COM2		RS-485	RS-232	RS-232
	COM5		N/A	N/A	RS-232
	COM6				RS-232
Auto Power On		Yes			
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)			
Dimensions		152 x 104 x 54 mm			
Weight		760g			
Operation Temp.		5 ~ 50 ℃			
Certifications		CE, FCC, VCCI, Vibration			
Optional		1. Mic in/ Line out 2. TTL level RS-232 port			

DIN PC-3332 Series, 2GB RAM, RS-485

Model Type		D-3332-851221	D-3332-851221C2	D-3332-852	D-3332-852C2
Processor		Vortex86DX2 (933MHz)			
BIOS		AMI BIOS			
Memory		Onboard 2GB DDR2			
VGA		Integrated Graphics Chip/ D-Sub 15-pin			
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)			
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)			
I/O	SD Slot	1x (Internal)			
	SATA	1x			
	COM1	RS-485	RS-485	RS-485	RS-485
	COM2	RS-422	RS-422	RS-485	RS-485
	COM5	N/A	RS-232	N/A	RS-232
	COM6		RS-232		RS-232
Auto Power On		Yes			
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)			
Dimensions		152 x 104 x 54 mm			
Weight		760g			
Operation Temp.		5 ~ 50 ℃			
Certifications		CE, FCC, VCCI, Vibration			
Optional		1. Mic in/ Line out 2. TTL level RS-232 port			

DIN PC-3332 Series, 2GB RAM, RS-422

Model Type		D-3332-221C1	D-3332-222	D-3332-222C2
Processor		Vortex86DX2 (933MHz)		
BIOS		AMI BIOS		
Memory		Onboard 2GB DDR2		
VGA		Integrated Graphics Chip/ D-Sub 15-pin		
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)		
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)		
I/O	SD Slot	1x (Internal)		
	SATA	1x		
	COM1	RS-422	RS-422	RS-422
	COM2	RS-232	RS-422	RS-422
	COM5	N/A	N/A	RS-232
	COM6			RS-232
Auto Power On		Yes		
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)		
Dimensions		152 x 104 x 54 mm		
Weight		760g		
Operation Temp.		5 ~ 50 ℃		
Certifications		CE, FCC, VCCI, Vibration		
Optional		1. Mic in and Line out 2. TTL level RS-232 port		

DIN PC-3332 Series, GPIO

Model Type		D-3332-C2G2	D-3332-852G2	D-3332-222G2	D-3332-851C1G2	D-3332-221C1G2	D-3332-851221G2
Processor		Vortex86DX2 (933MHz)					
BIOS		AMI BIOS					
Memory		Onboard 2GB DDR2					
VGA		Integrated Graphics Chip/ D-Sub 15-pin					
Ethernet		10/100 Mbps LAN x 1, 1G LAN x 1 (RJ-45 connector, Built-in PXE diskless boot)					
USB (2.0)		External: 2 ports, Internal: 1 port (space reserved dimension 33 x 20 mm)					
I/O	SD Slot	1x (Internal)					
	SATA	1x					
	COM1	RS-232	RS-485	RS-422	RS-485	RS-422	RS-485
	COM2	RS-232	RS-485	RS-422	RS-232	RS-232	RS-422
	GPIO P9	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
	GPIO P8	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
Auto Power On		Yes					
Power		DC +8V ~ +24V (Pluggable Terminal Block 3-Pin 5.00 mm Pitch)					
Dimensions		152 x 104 x 54 mm					
Weight		760g					
Operation Temp.		5 ~ 50 ℃					
Certifications		CE, FCC, VCCI, Vibration					
Optional		1. Mic in and Line out 2. TTL level RS-232 port					

DIN PC-3330 Series Listing:

D-3330-SS: Standard Version
D-3300-C1851: Standard Version with RS-232 port x 1 & RS-485 port x 1
D-3330-C2: Standard Version with RS-232 port x 2
D-3330-C4: Standard Version with RS-232 port x 4

D-3330-851221: Standard version with RS-485 port x 1 & RS-422 port x 1
D-3330-851221C2: Standard version with RS-485 port x 1, RS-422 port x 1 & RS-232 port x 2
D-3330-852: Standard version with RS-485 port x 2
D-3330-852C2: Standard version with RS-485 port x 2 & RS-232 port x 2

D-3330-221C1: Standard version with RS-422 port x 1 & RS-232 port x 1
D-3330-222: Standard version with RS-422 port x 2
D-3330-222C2: Standard version with RS-422 port x 2 & RS-232 port x 2

D-3330-C2G2: Standard Version with RS-232 port x 2 & 8-bit GPIO port x 2
D-3330-852G2: Standard Version with RS-485 port x 2 & 8-bit GPIO port x 2
D-3330-222G2: Standard Version with RS-422 port x 2 & 8-bit GPIO port x 2
D-3330-851C1G2: Standard Version with RS-485 port x 1, RS-232 port x 1 & 8-bit GPIO port x 2
D-3330-221C1G2: Standard Version with RS-422 port x 1, RS-232 port x 1 & 8-bit GPIO port x 2
D-3330-851221G2: Standard Version with RS-485 port x 1, RS-422 port x 1 & 8-bit GPIO port x 2

DIN PC-3332 Series Listing:

D-3332-SS: Standard Version
D-3332-C1851: Standard Version with RS-232 port x 1 & RS-485 port x 1
D-3332-C2: Standard Version with RS-232 port x 2
D-3332-C4: Standard Version with RS-232 port x 4

D-3332-851221: Standard version with RS-485 port x 1 & RS-422 port x 1
D-3332-851221C2: Standard version with RS-485 port x 1, RS-422 port x 1 & RS-232 port x 2
D-3332-852: Standard version with RS-485 port x 2
D-3332-852C2: Standard version with RS-485 port x 2 & RS-232 port x 2

D-3332-221C1: Standard version with RS-422 port x 1 & RS-232 port x 1
D-3332-222: Standard version with RS-422 port x 2
D-3332-222C2: Standard version with RS-422 port x 2 & RS-232 port x 2

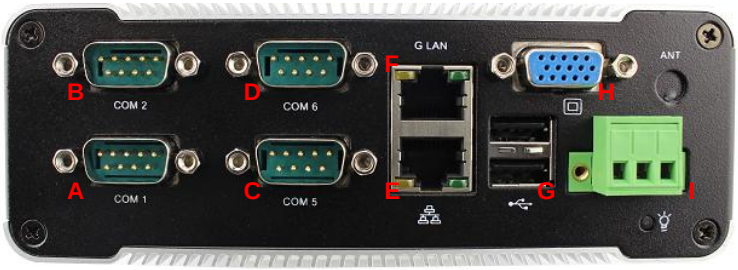
D-3332-C2G2: Standard Version with RS-232 port x 2 & 8-bit GPIO port x 2
D-3332-852G2: Standard Version with RS-485 port x 2 & 8-bit GPIO port x 2
D-3332-222G2: Standard Version with RS-422 port x 2 & 8-bit GPIO port x 2
D-3332-851C1G2: Standard Version with RS-485 port x 1, RS-232 port x 1 & 8-bit GPIO port x 2
D-3332-221C1G2: Standard Version with RS-422 port x 1, RS-232 port x 1 & 8-bit GPIO port x 2
D-3332-851221G2: Standard Version with RS-485 port x 1, RS-422 port x 1 & 8-bit GPIO port x 2

Chapter 5

Onboard Connectors Summary

Summary Table for CPU Board			
Nbr	**Description**	**Type of Connections**	**Pin nbrs.**
J2	SD Card Slot (Inside)	SD Card	9-pin
J3	SATA (Inside)	SATA Socket	7-pin
J5	USB3 (Inside)	USB Connector	4-pin
J6	USB1	USB Connector	4-pin
J6	USB2	USB Connector	4-pin
J7	GPIO P8	Box Header 5x2 2.0mm	9-pin
J8	VGA port	D-Sub Connector	15-pin
J9	GPIO P9	Box Header 5x2 2.0mm	9-pin
J10	Ethernet LAN	RJ-45	8-pin
J10	Ethernet LAN	G-LAN, RJ-45	8-pin
J11	COM1 Port	Box Header 5x2 2.0mm	9-pin
J11	COM2 Port	Box Header 5x2 2.0mm	9-pin
J13	COM5 Port	Box Header 5x2 2.0mm	9-pin
J13	COM6 Port	Box Header 5x2 2.0mm	9-pin
J15	Terminal Block	Terminal Block Socket	3-pin

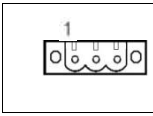
Front Connectors Outline



A: COM1 port
B: COM2 port
C: COM5/ GPIO P9
D: COM6/ GPIO P8
E: RJ-45 LAN, 10/100 Mbps
F: RJ-45 LAN, 1 Gbps
G: USB V2.0 x 2
H: VGA port
I : Terminal Block Header

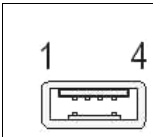
Pin Assignment

J15: 3-Pin Terminal Block Header



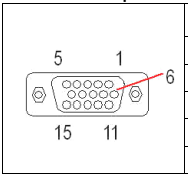
Pin #	Signal Name
1	+8 ~ +24V
2	GND
3	FG

J5: USB V2.0 – 4-Pin USB Type Connector (Internal)



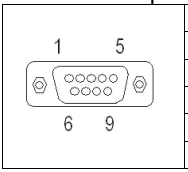
Pin #	Signal Name
1	VCC
2	USB2-
3	USB2+
4	GND
5	NC
6	NC

J8: VGA – 15pin D-Sub Connector



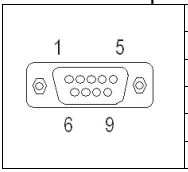
Pin #	Signal Name	Pin #	Signal Name	Pin #	Signal Name
1	MR	6	GND	11	NC
2	MG	7	GND	12	VCC
3	MB	8	GND	13	HYSYNC
4	NC	9	NC	14	VSYNC
5	GND	10	GND	15	VCC

J7 : GPIO P8 - 9pin D-Sub Connector (Available in GPIO version)



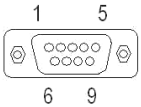
Pin #	Signal Name	Pin #	Signal Name
1	PORT 80	2	PORT 84
3	PORT 81	4	PORT 85
5	GND	6	PORT 86
7	PORT 82	8	PORT 87
9	PORT 83	- -	- -

J9 : GPIO P9 - 9pin D-Sub Connector (Available in GPIO version)



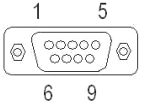
Pin #	Signal Name	Pin #	Signal Name
1	PORT 90	2	PORT 94
3	PORT 91	4	PORT 95
5	GND	6	PORT 96
7	PORT 92	8	PORT 97
9	PORT 93	- -	- -

J11 : COM 1 & COM 2 - 9pin D-Sub Connector (RS-232/ RS-422/ RS-485)



Pin #	Signal Name	Pin #	Signal Name
1	DCD/ 422TX-/ RS485-	2	RXD/ 422TX+/ RS485+
3	TXD/ 422RX+	4	DTR/ 422RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI	- -	- -

J13 : COM 5 & COM 6 - 9pin D-Sub Connector (RS-232)



Pin #	Signal Name	Pin #	Signal Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	--	--

J10: LAN: RJ-45 Connector (10/100 Mbps & 1G)

Pin #	Signal Name	Pin #	Signal Name
1	FTXD+	2	FTXD-
3	FRXIN+	4	NC
5	NC	6	FRXIN-
7	NC	8	NC

Chapter 6

Taking Care of your DIN PC

This section gives you some guidelines on using DIN PC: Safe using, Storing and Handling.

Storing

- Do not place DIN PC-333x Series in a location that is subject to:
  - Heating sources, such as stove, oven, heater, radiator or air duct
  - Direct contact from sunlight
  - Rain or moisture area
  - Excessive dust accumulation area
  - High humidity place
  - Constant or occasional mechanical movement, vibration or shock
  - Strong magnets or magnetic fields or magnetically unshielded speakers
  - Ambient temperature of more than 95°F (35°C) or less than 32°F (0°C)

- Do not place other electronic/ electrical equipments near DIN PC-333x Series. The electromagnetic field of DIN PC-333x Series may cause interference subjecting to malfunction.

- Provide adequate air ventilation (circulation) to prevent internal buildup of heat. Leave a space of at least 8 inches (20cm) behind the sides and back panel of the DIN PC-333x Series.

- Change of environmental temperature: Problems may occur when there is a sudden change of environmental temperature, or if the DIN PC-333x Series is brought directly from a cold location to a warm one, moisture may condense inside DIN PC-333x Series. Turn off the device, and contact your nearest dealer.

- Check the surrounding appliance(s) before using DIN PC-333x Series. Since the DIN PC-333x Series uses high-frequency radio signal and may interface with radio or TV reception causing interference or poor signal display. When this happens, relocate the DIN PC-333x Series by a suitable distance away from the set.

- Do not drop the DIN PC-333x Series from the working table nor place heavy objects on top of it.

Using Cables for Connection

- To avoid the problem, use only the specified interface cables in your accessory bag. The supplier will not be responsible for the connection arising from the other unspecified peripheral equipment.
- Do not use cut or damaged cables for connection.

Cleaning Your DIN PC

- Clean DIN PC with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution.
- Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzene, as these may damage the finish of DIN PC.
- When a solid object falls or a liquid spills onto the DIN PC, turn off the DIN PC immediately and unplug the LAN and power cables. Contact a qualified person or your dealer to check the DIN PC before you use it again.
- Always disconnect the power cord from the power source before cleaning the DIN PC.

Troubleshooting

This section describes the techniques of resolving some basic problems that you encounter when using DIN PC-333x Series. For more troubleshooting guidelines, please contact your nearest dealer for technical support.

Troubleshooting Your DIN PC

A. DIN PC does not start

- Make sure the DIN PC-333x Series is properly secured and plugged into a power source. Make sure the power indicator shows the power is on. See section 2 for more information about "DIN PC-333x Series Overview".
- Ensure that power connection of the DIN PC-333x Series to the external power source are plugged in properly.
- Check if your VGA or LCD monitor is properly plugged into a power source and turned on. Make sure the brightness and contrast controls are adjusted correctly. See the manual that came with your display (monitor) for details.
- Test the outlet by connecting a different electronic device to the outlet.
- Check if the DIN PC-333x Series does not function, by removing the power connection. Wait for one minute, and then reattach the power connection.
- Condensation may cause the DIN PC-333x Series to malfunction for a while. If this happens, do not use the DIN PC-333x Series for at least one hour.
- When you have checked all the above guidelines and the DIN PC-333x Series does not work. Remove the power connection from the DIN PC-333x Series, and plug it in again. Then the device should be powered on automatically.

B. BIOS Error Message –

BIOS error message appears when my DIN PC starts

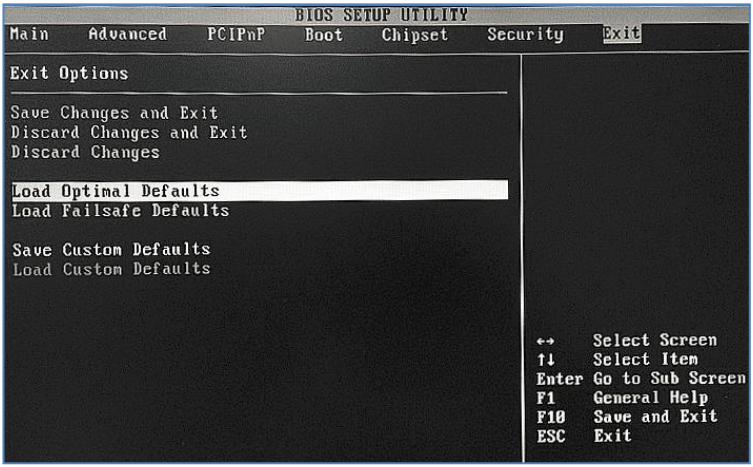
If the BIOS error message appears, press any key to resume or, hit <DEL> to enter the BIOS setup main menu, follow these steps:

1. Press <DEL>, and the BIOS Setup main menu appears, check if HDD is detected. If it is not detected, use Direction keys <↑↓> to choose "AUTO" and then go back to the main menu by pressing <ESC>. Move your cursor down with Direction keys <↓>, and choose "Save Settings and Exit", a message dialog appears as seen below, hit <Enter>.

   "Save current settings and exit (Y/N)? Y"

2. Go to "Exit" menu using the Direction keys <↑↓> and choose the option "Load Optimal Defaults", then press <Enter>. A message dialog appears as seen below, hit "Y" key and presses <Enter> to save and recover to the factory setting.

   "Load Optimal Defaults (Y/N)? Y"



(BIOS Setup menu "Exit")

C. "Operating System Not Found" –

A message indicating that "Operating system not found" appear when the DIN PC starts (Windows won't start)

- Enter the BIOS setup main menu by pressing <DEL> key, be sure if correct boot drive is enabled.

- If Windows still does not start, follow these steps to initialize the BIOS:
  1. Turn off the DIN PC-333x Series.
  2. Remove any peripheral devices connected to the DIN PC-333x Series.
  3. Restart the DIN PC-333x Series.
  4. Press <**DEL**> to enter **BIOS Setup main menu** window.
  5. Follow the steps as written in item **B. BIOS** error message.

- If you have just connected DIN PC-333x Series to a CD/ DVD or USB Drivers, remove these peripherals. And restart to confirm that the Windows operating system starts properly. If DIN PC-333x Series continues to display the message "Operating system not found," and Windows does not start, please contact your nearest dealer for servicing.

Chapter 7

Terms and Conditions

Warranty

The warranty terms for DIN PC-333x Series are twelve (12) months from the shipped month. During the warranty period, DMP Electronics will repair/ replace the product covered under this limited warranty.

Service and Support

DMP Electronics Inc. provides the technical support for hardware problems with your system throughout the warranty period. The technical support service is limited to configuration and operation of DIN PC-333x Series sold by DMP Electronics Inc. The technical support service does not offer software tutoring or training.

Return Merchandise Authorization（RMA）policy

If the DMP staff or dealer determines that a part is defective. Purchaser must call our technical support service to obtain an RMA number before attempting to return any part. Please refer to your nearest dealer for :

To obtain an RMA number, Purchaser must follow procedures as below:

1. Complete the DMP Electronics Inc. standard RMA Form and fax back to the RMA Department.
2. The RMA Number must be used within 7 DAYS.
3. The RMA Number must be shown clearly on your shipping label.
4. DMP Electronics Inc. must receive all Returns before a replacement will be sent.
5. The repair cost depends on the parts, the damage reasons, and whether under warranty period, etc. The Seller will charge the Purchaser in a reasonable price.
6. A copy of the invoice for the RMA product(s) will also be shipped to Purchaser.
7. The freight of return to DMP Electronics Inc. is charged to the Purchaser's account and accompanied by an RMA number. Any Returns with freight collect will be refused and returned to you. After Repairing, the cost of freight will be paid by Seller.
8. DMP Electronics Inc. must receive all returned goods within the warranty period.

Shipping Policy

The Purchaser must pre-pay shipping for any defective system or parts returned under the warranty. DMP Electronics Inc. shall not be liable for risk of loss or damage during shipment of your returned system or parts if you fail to insure the shipment.

All products must be shipped back to DMP Electronics Inc. in original or equivalent packaging. DMP Electronics Inc. will ship the repaired or replacement product(s) to the Purchaser by freight prepaid. Purchaser assumes the risk of loss. DMP Electronics Inc. shall not be responsible for failure of the delivery service to make on-time delivery.