Intel-powered Convertible Classmate PCs Power Management User Manual

For Ubuntu Netbook Remix Operating System

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Revision History

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1. Introduction

The Intel-powered convertible classmate PCs are affordable, rugged, and fun netbooks built for learning. Based on research in educational settings, the child-friendly design converts from a clamshell to a touch-optimized tablet – promoting intuitive use, interactive learning, and new mobility. Intel-powered convertible classmate PCs come with education-specific features and software, and are supported by a wide range of local vendors.

Key Features:

- View battery status and detail information.
- Management power schemes include viewing a power scheme, adding a power scheme, editing a power scheme, and deleting a power scheme.
- Apply a power scheme.
- Custom general options.

2. System Requirements

Hardware	CPU	Intel® Core(TM) CPU N270
	Memory	512MB
	Hard disk	4G
Operating Systems		Ubuntu 8.04

Table 1 – System Requirements

3. Intel Power Manager Installation

3.1 Install Power Manager

Power management install package format is deb.
If not login as Root account, run command: sudo dpkg –i xxx.deb.

Power Management will run as a tray icon in the task bar tray area. When you right click or left click the tray icon, a touch-optimized tray menu will be shown. You can access the functions of Power Management through it.

3.2 Uninstall Power Manager

If you does not login as Root account, run command: sudo dpkg –P power-management
Once the un-installation process completes, Intel(R) Power Manager will be removed from your computer

4. Getting Started with Power Manager

4.1 Intel Power Manager at a Glance

4.1.1 Tray Icon Status

Power Management will be minimized and display as an icon in the system tray after start up. It has several shapes or colors to show your power status.

 : indicate you are using AC power and the battery is fully charged or there is no battery at all.

 : indicate you are using AC power and the battery is charging now.

 : indicate you are using AC power and the battery has high capacity now.

 : indicate you are using DC power and the battery has middle capacity now.

 : indicate you are using DC power and the battery has low capacity now.

4.1.2 Battery Status Balloon

If you move the mouse on the tray icon, you can see a balloon box to show the text of power status.
If PC is in battery status, you can view the remaining time and remaining percent.

If some devices are disabled for power saving, a link will be shown on the bottom of the balloon. You can click it to see detailed info about those devices.

Figure 1 – Battery Status Balloon

Figure 2 – Charging Status Balloon

Figure 3 – Charged Status Balloon

You can click **Battery Status>>** link to switch back to battery status balloon.

Figure 4 – Device Disable Balloon

If the PC is plugged in AC without battery, the tray icon will be the same as that of AC status, and the balloon will show “No system battery”.

Figure 5 – No Battery Balloon

4.1.3 Tray Menu

Right click or left click the tray icon, a touch-optimized tray menu will be shown. You can see the current power status from the first menu item. If PC is in battery status, you can view the remaining time and remaining percent.

Tray menu comprises several menu options. With this menu, you can access many functions. The next sections describe these function modules in detail.

- Power Schemes - There are several power schemes listed in the tray menu, with the default one selected. Click the power scheme on the list is to apply it immediately. There are three power schemes predefined by Intel®. For more information on these power schemes, please refer to section 3.1.

- Launch Power Manager – When you click **Launch Power Manager**, Intel® Power Manager dialog opens. This dialog allows for creating new power schemes, editing and deleting power schemes as well as switching power schemes from scheme list. For details please refer to section 3.

- View Battery Information – When you click Battery Status item, the Battery Information dialog appear to show the real-time status of battery. For details about power scheme settings, please refer to section 2.2.

- Exit Power Management – You can click **Exit** to exit software and can start it through **Applications->Other->Power Manager**.

4.2 View Battery Information

If you are using the battery in your PC, and you may want to know about the current battery status, just click the Tray icon, and select Battery Information on the tray menu to open Battery Information dialog.

Real-time status of battery and detailed battery information is displayed in this dialog.

Figure 6 – Battery Information Dialog

4.3 Predefined Power Schemes

For your convenience, there are three power schemes predefined by Intel.

Classmate Default – a balanced power scheme for prolonged classroom usage

Max Performance – a power scheme emphasizing on high performance

E-reader Mode – a power scheme that saves power aggressively

Item	Classmate Default		Max Performance		E-reader Mode	
	DC Setting	AC Setting	DC Setting	AC Setting	DC Setting	AC Setting
LCD Brightness	Level 3	Level 7	Level 7	Level 7	Level 3	Level 5
WLAN	On	On	On	On	Off	On
LAN	On	On	On	On	Off	On
LAN Speed	100 Mbps	100 Mbps	100 Mbps	100 Mbps	10 Mbps	10 Mbps
Turn off display	5 minutes	30 minutes	15 minutes	Never	20 minutes	30 minutes
System standby	15 minutes	60 minutes	30 minutes	Never	30 minutes	60 minutes

Table 2 – Predefined Power Schemes

5. Using Intel Power Manager

When you click Launch Power Manager from the Tray menu, Intel® Power Manager dialog opens. This is the main window of Intel® Power Management solutions.

Figure 7 – Power Manager Main Window

There are two sections under either Battery Settings or AC Settings: **Effective of Settings** and **Power Settings**. You can view the effectives of your selected power settings in Effective of Settings section in a vivid way when you have configured several parameters in

Power Settings. This makes it easier for you to recognize the real effects of the scheme you choose.

5.1 Power Scheme Options

The following table describes the various power scheme options, which can be set up in Intel® Power Manager. Note that some options may not be available in your system.

Options	Descriptions	Value
Display Brightness	Set your Liquid Crystal Display (LCD) display level for your Battery Settings or AC settings.	Level 0 to Level 7
LAN Speed	Allow you to limit LAN speed for your Battery Settings or AC Settings to save power.	10Mbps/Half Duplex, 10Mbps/Full Duplex, 100Mbps/Half Duplex, 100Mbps/Full Duplex

Wired/Wireless Status	Allow you to Enable or Disable Wired or Wireless, which is a local area network that uses high frequency radio signals to transmit and receive data over distances of a few hundred feet using Ethernet protocol. If you do not need to surf over the Internet or have a cable link to Internet, you can Disable Wired or Wireless to save power.	Enable; Disable
Turn off Display	Allow you to turn off the display to save power, when the PC idles without any signal input for a period of time.	After 1 min to After 5 hours. Optionally, you can choose Never to never turn off the display.
Enter System standby	Allow you to enable system standby mode to save power, when the PC idles without any signal input for a period of time.	After 1 min to After 5 hours. Optionally, you can choose Never to never enable system standby mode.

Table 3 – Power Scheme Options

5.2 Edit Power Scheme

You can change power scheme settings depending on situation. All the schemes are editable, including the 3 default ones. You can select a power scheme in the main window and click **Edit** to open **Edit Power Scheme** window.

5.2.1 Change Power Settings

You can edit scheme name, battery settings & AC settings in this window.

After configure settings, click **Save** to save the scheme and the result is shown in the main dialog. Click **Cancel**, the operation is canceled.

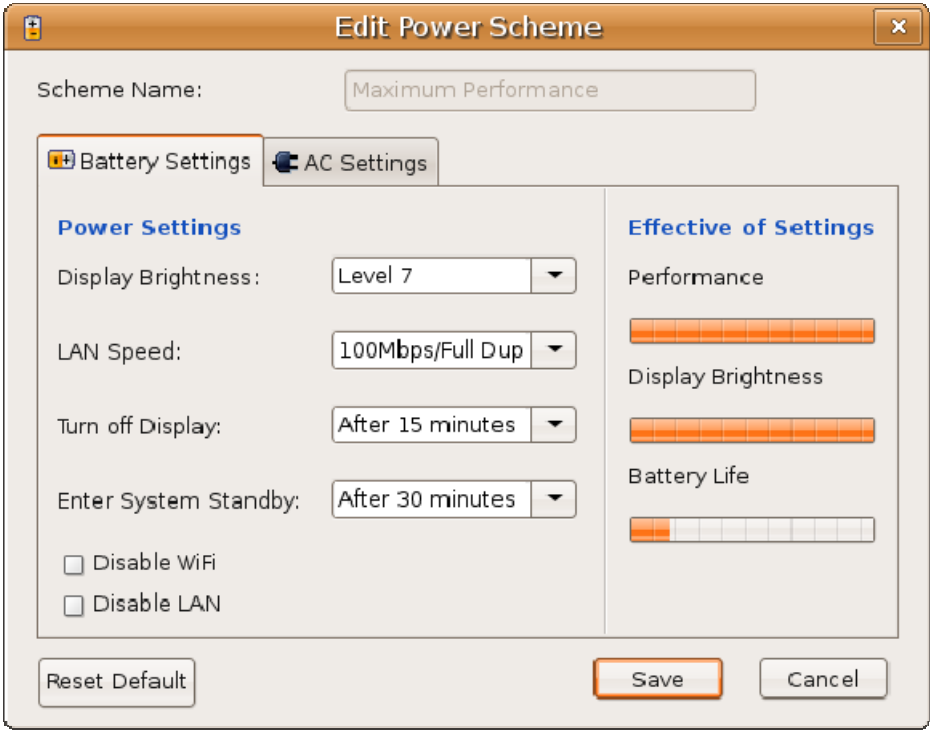

Figure 8 – Edit Power Scheme

[Note]

You cannot change the name of default schemes and the name input boxes of default schemes are disabled.

- If you don't input the name of the new scheme and then clicks **Save**, a warning message will pop up: "Please enter scheme name."

Figure 9 –Scheme Name Empty Warning

- The **Scheme Name** can accept all characters except “<”, “>”, “&”, “””, “’”. If you input the name of the new scheme and then click **Save**, a warning message will pop up: “Power scheme name can not contain >, <, &, “, ‘.”.

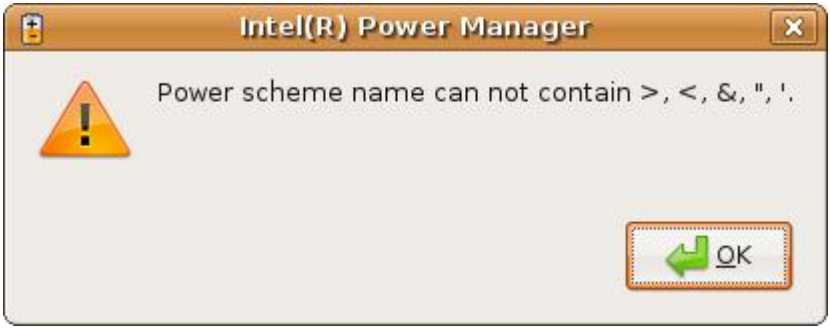

Figure 10 – Scheme Name Contain Special Character Warning

- If you enter the same name as an existed scheme and then click **Save**, a warning message will pop up: “The name has already been used.”

Figure 11 – Scheme Name Repeated Warning

5.2.2 Reset Default Settings

If you changed the settings of default power schemes, you can restore the settings by clicking **Reset Default** button on the bottom left of the Edit Power Scheme window. A message will prompt for confirmation.

Figure 12 – Reset Default Warning

5.3 Add Power Scheme

You can create customized power schemes. When you click the **New…** button in main window, the New Power Scheme Wizard will pop up. The parameters are the same as Classmate Default.

If the total number of power schemes reaches the maximum, a warning message will pop up when you click **New…** in main window.

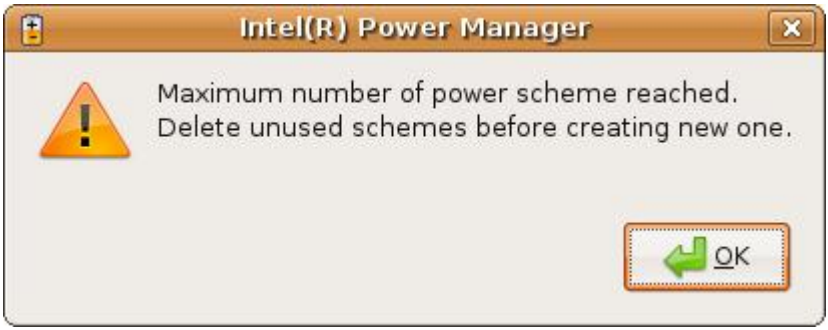

Figure 13 – Maximum Number Warning

5.3.1 Step 1 - General Settings

You can input scheme name in Step 1. Click **Next** to continue. You can input no longer than 20 characters for a scheme name

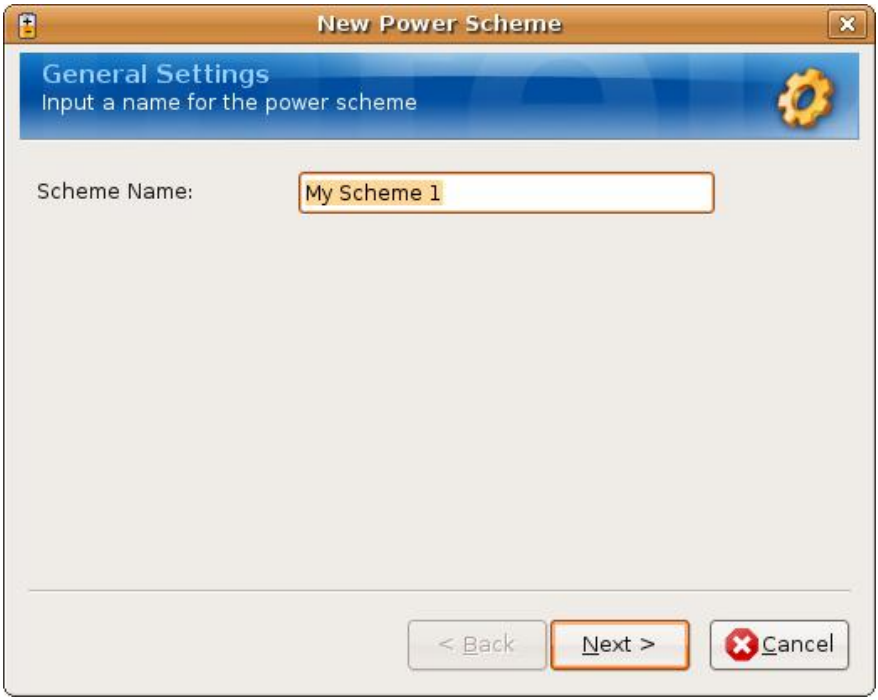

Figure 14 – New Power Scheme Step 1

[Note]

- Default power scheme name is: “My Scheme X”. (X stands for scheme number: 1, 2 or 3.).
- If you input the scheme name which is empty, existed or contains “%”, “\”, “<”, “>”, “””, a warning message box will pop up. For more information please refer to the section 3.3.1.

5.3.2 Step 2 - Battery Settings

You can set up battery settings in Step 2. Effective of Settings will be displayed real-time based on your settings. Click **Next** to continue.

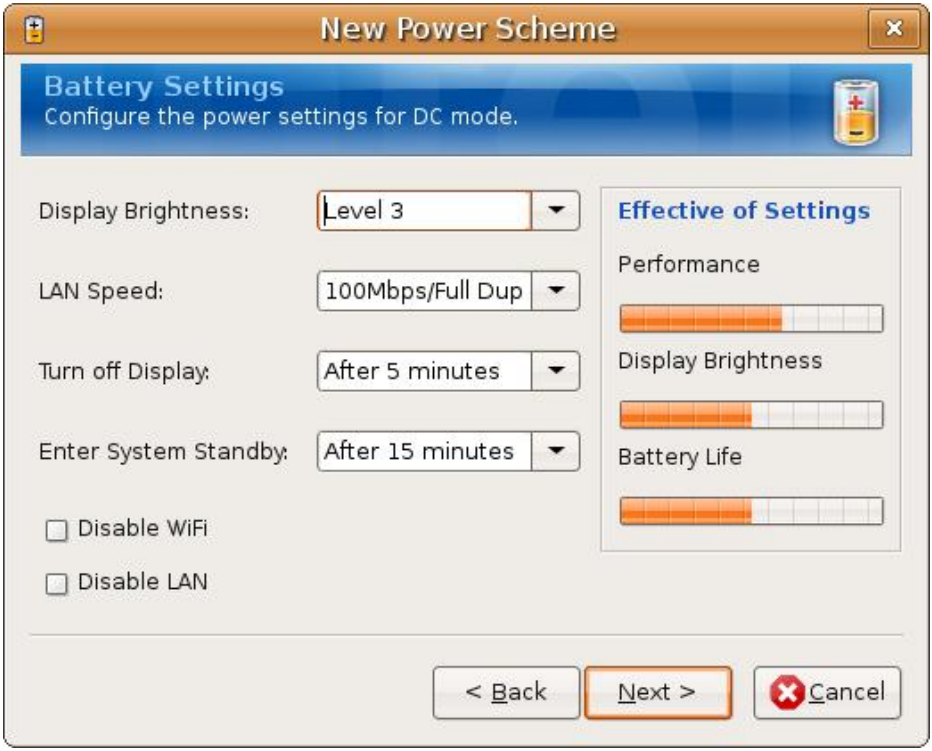

Figure 15 – New Power Scheme Step 2

5.3.3 Step 3 - AC Settings

You can set up AC settings in Step 3. Effective of Settings will be displayed real-time based on your settings. Click **Finish** to complete the settings.

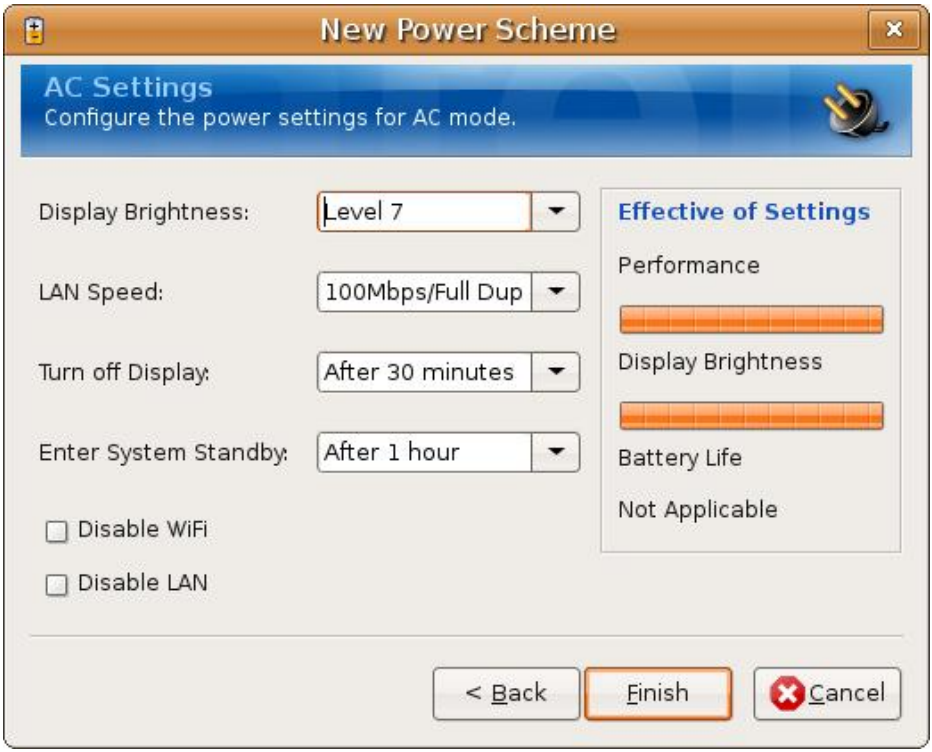

Figure 16 – New Power Scheme Step 3

5.4 Delete Power Scheme

If you click **Delete** button to delete a power scheme, the confirm dialog will pop up to require your confirmation.

Figure 17 – Delete Power Scheme Warning

[Note]
You can't delete the current active scheme.

You can't delete three default power schemes.

If you try to delete the current active power scheme, a warning message box will pop up.

Figure 18 – Delete Active Power Scheme Warning

5.5 Switch Power Scheme

You can switch a power scheme from two places:

- Select the power scheme directly from the tray menu to apply it.
- Select the power scheme from the combo box and clicking **Apply** button or **OK** button in Power Manger main window.

If some devices need to be disabled after you switch to a certain power scheme, a dialog will pop up asking you for confirmation. If you want to open the device anyway, you can uncheck the buttons to enable it.

Figure 19 – Device Disable Settings

If you want to save all current settings for ever, you can check **Remember my settings…**.

If some options aren't available in your system, a warning message box will pop up.

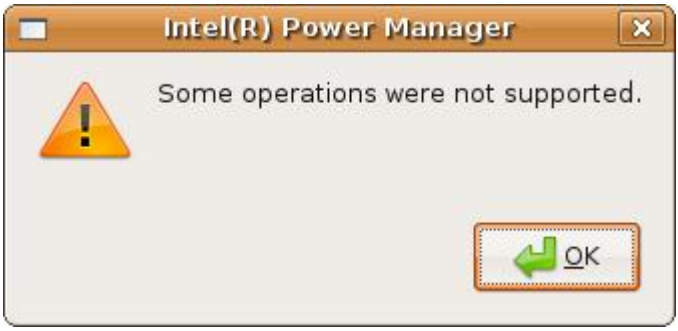

Figure 20 – Apply Power Scheme Warning

5.6 Options Settings

You can enter Options Dialog by clicking **Options** button on the bottom left of main window. In this dialog,

- You can determine whether to run application when OS starts up.
- You can determine whether to show the device enable/disable dialog during power scheme switch.

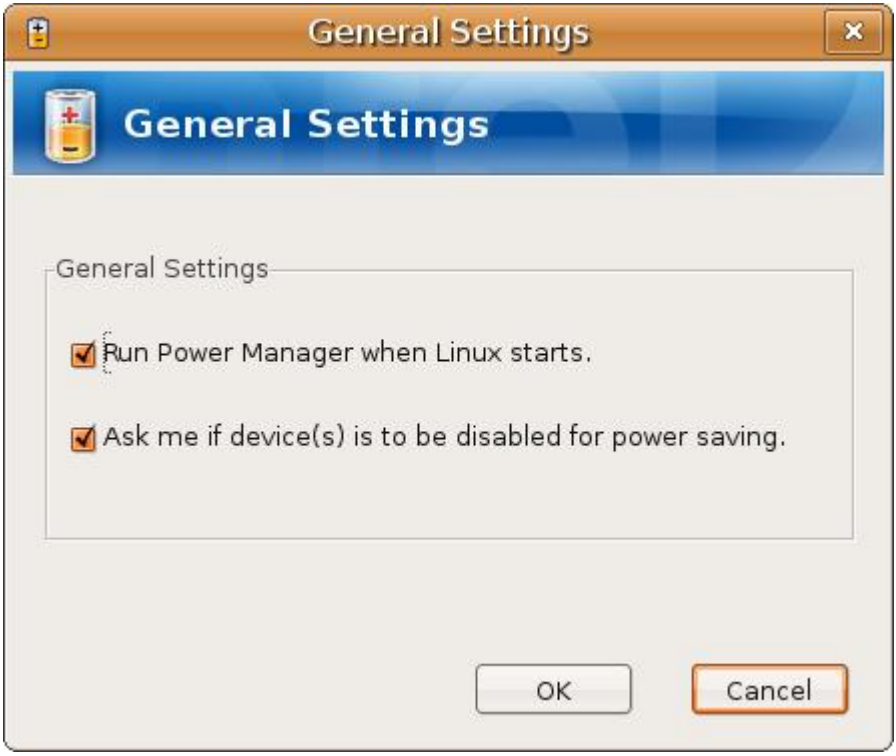

Figure 21 – Options Settings

5.7 About

When you click **About** button on the Power Manager main window, a dialog will pop up to show Product name, version and copyright info.

Figure 22 – About Dialog

5.8 Help

When you click **Help** button on the Power Manager main window or press F1 key, a help window will pop up providing you with help info about Power Manager.

6. Frequently Asked Questions

1. Q: When I apply a power scheme, a warning message box pop up and tip **Some operations were not supported.** why?

   A: Some options may not be available in your system, for example, set LAN speed option can't be supported if your PC can't link to network through LAN.

2. Q: Sometimes my time to discharge is out of the way, why?
   A: Battery maybe faulty and its discharging/charging rate maybe not stable at this time. .

3. Q: Does Second Generation Intel-powered convertible classmate PCs Power Management support ACPI?
   A: Yes.

4. Q: What about the Standby state?
   A: The Standby state is a power saving feature which is the lowest level of power consumption that preserves program data in the computer's memory. When your computer is in the Suspended state, computation will not be performed until normal activity is resumed. It will not resume until signaled by an external event such as a keyboard button press. It generally takes a few seconds to suspend and then resume your computer.