



LA-5033 PCI Adapter
Quick Reference Guide

Wireless Networker

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Patents

This product is covered by one or more of the following U.S. and foreign Patents:

4,593,186; 4,603,262; 4,607,156; 4,652,750; 4,673,805; 4,736,095; 4,758,717; 4,760,248; 4,806,742; 4,816,660; 4,845,350; 4,896,026; 4,897,532; 4,923,281; 4,933,538; 4,992,717; 5,015,833; 5,017,765; 5,021,641; 5,029,183; 5,047,617; 5,103,461; 5,113,445; 5,130,520; 5,140,144; 5,142,550; 5,149,950; 5,157,687; 5,168,148; 5,168,149; 5,180,904; 5,216,232; 5,229,591; 5,230,088; 5,235,167; 5,243,655; 5,247,162; 5,250,791; 5,250,792; 5,260,553; 5,262,627; 5,262,628; 5,266,787; 5,278,398; 5,280,162; 5,280,163; 5,280,164; 5,280,498; 5,304,786; 5,304,788; 5,306,900; 5,324,924; 5,337,361; 5,367,151; 5,373,148; 5,378,882; 5,396,053; 5,396,055; 5,399,846; 5,408,081; 5,410,139; 5,410,140; 5,412,198; 5,418,812; 5,420,411; 5,436,440; 5,444,231; 5,449,891; 5,449,893; 5,468,949; 5,471,042; 5,478,998; 5,479,000; 5,479,002; 5,479,441; 5,504,322; 5,519,577; 5,528,621; 5,532,469; 5,543,610; 5,545,889; 5,552,592; 5,557,093; 5,578,810; 5,581,070; 5,589,679; 5,589,680; 5,608,202; 5,612,531; 5,619,028; 5,627,359; 5,637,852; 5,664,229; 5,668,803; 5,675,139; 5,693,929; 5,698,835; 5,705,800; 5,714,746; 5,723,851; 5,734,152; 5,734,153; 5,742,043; 5,745,794; 5,754,587; 5,762,516; 5,763,863; 5,767,500; 5,789,728; 5,789,731; 5,808,287; 5,811,785; 5,811,787; 5,815,811; 5,821,519; 5,821,520; 5,823,812; 5,828,050; 5,848,064; 5,850,078; 5,861,615; 5,874,720; 5,875,415; 5,900,617; 5,902,989; 5,907,146; 5,912,450; 5,914,478; 5,917,173; 5,920,059; 5,923,025; 5,929,420; 5,945,658; 5,945,659; 5,946,194; 5,959,285; 6,002,918; 6,021,947; 6,029,894; 6,031,830; 6,036,098; 6,047,892; 6,050,491; 6,053,413; 6,056,200; 6,065,678; 6,067,297; 6,082,621; 6,084,528; 6,088,482; 6,092,725; 6,101,483; 6,102,293; 6,104,620; 6,114,712; 6,115,678; 6,119,944; 6,123,265; 6,131,814; 6,138,180; 6,142,379; 6,172,478; 6,176,428; 6,178,426; 6,186,400; 6,188,681; 6,209,788; 6,209,789; 6,216,951; 6,220,514; 6,243,447; 6,244,513; 6,247,647; 6,308,061; 6,250,551; 6,295,031; 6,308,061; 6,308,892; 6,321,990; 6,328,213; 6,330,244; 6,336,587; 6,340,114; 6,340,115; 6,340,119; 6,348,773; D305,885; D341,584; D344,501; D359,483; D362,453; D363,700; D363,918; D370,478; D383,124; D391,250; D405,077; D406,581; D414,171; D414,172; D418,500; D419,548; D423,468; D424,035;

D430,158; D430,159; D431,562; D436,104; 5,912,662; 6,011,873; 6,080,001; 6,234,389; 6,193,152B1; Invention No. 55,358; 62,539; 69,060; 69,187 (Taiwan); No. 1,601,796; 1,907,875; 1,955,269 (Japan); European Patent 367,289; 414,281; 367,300; 367,288; UK 2,072,832; France 81/039338; Italy 1,138,713

Regulatory Compliance

All Symbol devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required. Any changes or modifications to Symbol Technologies equipment, not expressly approved by Symbol Technologies, could void the user's authority to operate the equipment.

Regulatory Approvals

Regulatory labels are applied to the device signifying the radio (s) are approved for use in the following countries: United States, Canada, Australia, Japan, Singapore & Europe ^{1,2}.

Note¹: For 2.4GHz Products: Europe includes, Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Note²: The use of 5GHz RLAN's has varying restrictions of use; please refer to the Symbol Declaration of Conformity (DoC) for details, at <http://www2.symbol.com/doc/>.

FCC RF Exposure Guidelines

Safety Information



The device complies with Internationally recognized standards covering Specific Absorption Rate (SAR) related to human exposure to electromagnetic fields from radio devices.

Reducing RF Influence – Use Properly

It is advisable to use the device only in the normal operating position and it is recommended that no part of the human body be allowed to come too close to the antenna during operation of the equipment. To comply with FCC and EU RF exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop or similar configurations must operate with a minimum separation distance of 20cm from all persons.

Radio Frequency Interference Requirements - FCC



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



72-67968-01 Revision A - May 2004
6011-47010011

United States ¹	1-800-653-5350	Canada	905-629-7226
United Kingdom	0800 328 2424	Asia/Pacific	+65-6786-9600
Australia	1-800-672-906	Austria/Osterreich	1-505-5794-0
Denmark/Danmark	7020-1718	Finland/Suomi	9 5407 580
France	01-40-96-52-21	Germany/Deutschland	6074-49020
Italy/Italia	2-48441	Mexico/México	5-520-1835
Netherlands/Nederland	315-271700	Norway/Norge	+47 2232 4375
South Africa	11-8095311	Spain/España	91 324 40 00
Sweden/Sverige	84452900	Inside Spain	+34 91 324 40 00
Outside Spain			
Latin America	1-800-347-0178 inside US		
Sales Support	+1-954-255-2610 Outside US		
Europe/Mid-East	Contact local distributor or call		
Distributor Operations	+44 118 945 7360		
*Customer support is available 24 hours a day, 7 days a week.			

If there is a problem with the equipment, they will contact the Symbol Support Center. If you have a problem running your unit or using your equipment, contact your facility's Technical or Systems Support. Before you use the unit, it must be configured to operate in your facility's network and run your applications.

Contact Information

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.

Radio Transmitters (Part 15)

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.

Radio Frequency Interference Requirements – Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Radio Transmitters

This device complies with RSS 210 of Industry & Science Canada. 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.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.



CE Marking and European Economic Area (EEA)

The use of 2.4GHz RLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz
- France outside usage, the equipment is restricted to 2.400-2.45 GHz frequency range
- Belgium outside usage, the equipment is restricted to 2.460-2.4835 GHz frequency range
- Italy requires a user license for outside usage.

The use of 5GHz RLAN's has varying restrictions for use within the EEA; please refer to the Symbol Declaration of Conformity (DoC) for details at <http://www2.symbol.com/doc/>.

Statement of Compliance

Symbol Technologies, Inc., hereby, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A Declaration of Conformity may be obtained from <http://www2.symbol.com/doc/>.

Other Countries

Mexico - Restrict Frequency Range to: 2.450 - 2.4835 GHz.

Sri Lanka - Restrict Frequency Range to: 2.400 – 2.430 GHz.

Introduction

The Wireless Networker LA-5033 PCI Adapter allows PCI slot equipped devices to connect to a Wi-Fi IEEE 802.11 a, b or g wireless local area network (LAN), or communicate directly with other mobile devices enabled for wireless LAN connectivity.

Features include:

- Operating mode options for access point or peer-to-peer associations
- Low-power operation for battery-powered devices with PC Card slots
- Standard NDIS (Network Driver Interface Specification) driver support
- Windows 2000 and XP operating system support
- WEP, 802.1x, EAP security
- Wi-Fi Protected Access (WPA)
- Rogue AP Detection.

Installation Prerequisites

The physical PCI Adapter installation differs for each system. Refer to the system manufacture documentation for device specific information.

- Note:** For instructions on installing the LA-5033 PCI Adapter in Windows 2000 or XP for use with the Microsoft Zero Config utility, refer to the Wireless Networker LA-5030 PC Card & LA-5033 PCI Adapter Users Guide available from the Symbol Website at http://www.symbol.com/services/downloads/wn_abg_drivers.html).

Keep the PCI Adapter serial number in a safe place. The Support Center uses the information to reference warranty and service contract data. Verify the model number (LA-5033) before use. Contact the support center if an item is missing or damaged.

The LA-5033 PCI Adapter installation requires:

- a system with an available PCI slot
- Windows Service Pack #4 for Windows 2000 installations
- Windows Service Pack #1 for Windows XP installations
- an available interrupt (IRQ) and available I/O part address
- Internet access.

Installing LA-5033 PCI Adapter, Driver and Configuration Utility in Windows 2000

The installation of the LA-5033 PCI adapter requires the physical installation of the adapter, the device driver and the Symbol Wireless Networker 802.11 a/g Configuration Utility.

If there is a version of the Symbol Wireless Networker 802.11 a/g Configuration Utility and driver in the computer, remove them from the system. Select *Start -> Programs -> Symbol Wireless Networker -> Uninstall* to remove the configuration utility and driver. The user can also use the Windows Add/Remove Programs feature to remove the Configuration Utility and driver.

- Note:** Use proper grounding for the environment when handling computer components.

To install the Symbol LA-5033 PCI Adapter Configuration Utility and driver in Windows 2000:

- Ensure the previously installed driver and Symbol Wireless Networker 802.11 a/g Configuration Utility has been removed (if necessary).
- Download the driver and Symbol Wireless Networker 802.11 a/g Configuration Utility from the Symbol Web site (http://www.symbol.com/services/downloads/wn_abg_drivers.html).
 - A **File Download** window displays prompting the user to either open the driver and software installer or save the installation package to the system.
- Select **Open** to proceed with the installation. A **WinRAR self-extracting archive** window displays.
 - Note:** To manually install the driver and software package select **Save**, define a destination location for the driver and software package and follow the prompts displayed by the installer.
- Select **Install** from the WinRAR self-extracting archive window to automatically extract the driver and software package and launch the **Symbol Wireless Networker Install Menu**.
- Select the **Install Software** option.
- Select the **Install device driver and configuration utility** checkbox and click **OK**.
 - A **Symbol Wireless Networker 802.11 a/g Installer** window displays.
- Click **Next** to continue with the driver and Symbol Wireless Networker 802.11 a/g Configuration Utility installation.
 - A **License Agreement** window displays.
- Select **I accept the terms of the license agreement**. Click **Next**.
 - A **Select Hardware** window displays.
- Select **Symbol LA-5033 PCI Adapter**. Click **Next**.
 - A **Choose Destination Location** window displays prompting the user to define the location for the application software.

- Click **Next** to continue using the default path, or click **Browse** to specify a different location for the software.
 - The InstallShield Wizard begins installing the Configuration Utility and driver.
- Click **Finish** to complete the Configuration Utility and driver installation.
- Power off the computer before installing the PCI adapter.
- Remove the computer cover.
- Locate an available PCI slot in the computer.
- Remove the retaining screw and bracket for the slot.
- Take the antenna with extended cable pass through the bracket hole first and secure it on the cradle. The user can select a best position for the cradle.
- Align the adapter with the slot and insert firmly. Verify the adapter seats in the slot evenly.
- Secure the adapter to the chassis with a retaining screw.
- Replace the computer cover.
- Power on the desktop computer.

The Windows **Found New Hardware** window displays.

The system detects the new hardware and installs the drivers automatically.

Once the driver has been installed successfully, the link LED on the PCI Adapter illuminates. The Configuration Utility icon displays in the task tray. Double-click on the Configuration Utility icon to display the utility. Select the **Find WLANs** tab and choose the network best suited to the signal strength and interoperability requirements of the adapter. The user is ready to use the PCI Adapter with the Configuration Utility.

- Proceed to the Configuring the LA-5033 PCI Adapter section of this document for information on using the Configuration Utility to mange the LA-5033 PCI adapter. For advanced configuration instructions, refer to the *LA-5030 PC Card & LA-5033 PCI Adapter User Guide*. Go to http://www.symbol.com/services/downloads/wn_abg_drivers.html to access the guide.

Installing the LA-5033 PCI Adapter, Driver and Configuration Utility in Windows XP

The installation of the LA-5033 PCI adapter requires the physical installation of the adapter, the device driver and the Symbol Wireless Networker 802.11 a/g Configuration Utility.

If there is a version of the Symbol Wireless Networker 802.11 a/g Configuration Utility and driver in the computer, remove them from the system. Select *Start -> Programs -> Symbol Wireless Networker -> Uninstall* to remove the configuration utility and driver. The user can also use the Windows Add/Remove Programs feature to remove the Configuration Utility and driver.

- Note:** Use proper grounding for the environment when handling computer components.

To install the Symbol LA-5033 PCI Adapter Configuration Utility and driver in Windows XP:

- Ensure the previously installed driver and Symbol Wireless Networker 802.11 a/g Configuration Utility has been removed (if necessary).
- Download the driver and Symbol Wireless Networker 802.11 a/g Configuration Utility from the Symbol Web site (http://www.symbol.com/services/downloads/wn_abg_drivers.html).
 - A **File Download** window displays prompting the user to either open the driver and software installer or save the installation package to the system.
- Select **Open** to proceed with the installation. A **WinRAR self-extracting archive** window displays.
 - Note:** To manually install the driver and software package select **Save**, define a destination location for the driver and software package and follow the prompts displayed by the installer.
- Select **Install** from the WinRAR self-extracting archive window to automatically extract the driver and software package and launch the **Symbol Wireless Networker Install Menu**.
- Select the **Install Software** option.
- Select the **Install device driver and configuration utility** check box and click **OK**.
 - A **Symbol Wireless Networker 802.11 a/g Installer** window displays.
- Click **Next** to continue with the driver and Symbol Wireless Networker 802.11 a/g Configuration Utility installation.
 - A **License Agreement** window displays.
- Select **I accept the terms of the license agreement**. Click **Next**.
 - A **Select Hardware** window displays.
- Select **Symbol LA-5033 PCI Adapter**. Click **Next**.
 - A **Choose Destination Location** window displays prompting the user to define the destination folder for the application software.

- Click **Next** to continue using the default path, or click **Browse** to specify a different location for the software.
 - The InstallShield Wizard begins installing the Configuration Utility and driver.
- Click **Finish** to complete the Configuration Utility and driver installation.
- Power off the computer before installing the PCI adapter.
- Remove the computer cover.
- Locate an available PCI slot in the computer.
- Remove the retaining screw and bracket for the slot.
- Take the antenna with extended cable pass through the bracket hole first and secure it on the cradle. The user can select a best position for the cradle.
- Align the adapter with the slot and insert firmly. Verify the adapter seats in the slot evenly.
- Secure the adapter to the chassis with a retaining screw.
- Replace the computer cover.
- Power on the desktop computer.
 - The system detects the new hardware.

- Click the **Install the software automatically (recommended)** checkbox. Click **Next**.
 - The system installs the driver.
 - The **Found new Hardware Wizard** displays a message stating the wizard has completed the adapter driver installation.
- Click **Finish** to close the wizard and complete the installation.
 - Once the driver has been installed successfully, the link LED on the PCI Adapter illuminates. The Configuration Utility icon displays in the task tray. Double-click on the Configuration Utility icon to display the utility. Select the **Find WLANs** tab and choose the network best suited to the signal strength and interoperability requirements of the adapter. The user is ready to use the PCI Adapter with the Configuration Utility.
- Proceed to the *Configuring the LA-5033 PCI Adapter* section of this document for information on using the Configuration Utility to mange the LA-5033 PCI adapter. For advanced configuration instructions, refer to the LA-5030 PC Card & LA-5033 PCI Adapter User Guide. Go to http://www.symbol.com/services/downloads/wn_abg_drivers.html to access the guide.

Configuring the LA-5033 PCI Adapter

The Symbol Wireless Networker 802.11 a/g Configuration Utility comes bundled with the PC Card driver. The software installation package is available from the Symbol Web site at (http://www.symbol.com/services/downloads/wn_abg_drivers.html).

Use the Symbol Wireless Networker 802.11 a/g Configuration Utility to view and configure the PC Card settings. Complete the driver and Configuration Utility installation instructions for Windows 2000 or XP to install Symbol Wireless Networker 802.11 a/g Configuration Utility and driver.

The status icon changes in real-time to reflect the signal strength and availability of the adapter and the wireless network. Right-click the icon in the task tray and select **Show Utility** to open the utility.

Select **Exit** to close the Configuration Utility and remove the icon from the task tray.

Select *Start->Programs->Symbol->WIRELESS NETWORKER 802.11ag Utility* to launch the Configuration Utility.

- Note:** Refer to the *Wireless Networker LA-5030 PC Card & LA-5033 PCI Adapter Users Guide* available from the Symbol Website at (http://www.symbol.com/services/downloads/wn_abg_drivers.html) for advanced configuration instructions using the Symbol Configuration Utility.

Troubleshooting

If problems are encountered during the installation of the LA-5033 PCI Adapter, driver or Configuration Utility, refer to the *Wireless Networker LA-5030 PC Card & LA-5033 PCI Adapter Users Guide* available from the Symbol Website at (http://www.symbol.com/services/downloads/wn_abg_drivers.html).

Specifications

The LA-5033 PCI Adapter has the following specifications:

<i>Dimensions (less antenna)</i>	121-mm(L) x 122mm(W) x 18.5mm(H)
<i>Weight (with antenna)</i>	203g
<i>Operating temperature</i>	0° to 50°C
<i>Storage temperature</i>	-20° to 70°C
<i>Humidity 95%</i>	95% maximum non-condensing
<i>Altitude</i>	2.4k m(8000 feet)/4 hours (Operating)
<i>Shock</i>	-20C~+80C/ 30minutes, 100cycles
<i>ESD</i>	meets CE-Mark