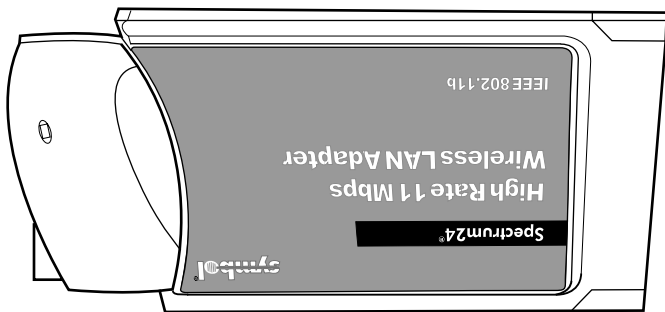




11742-1300

Holtsville, NY  
One Symbol Plaza  
Symbol Technologies, Inc.

This product is covered by one or more of the following U.S. and foreign Patents: U.S. Patent No. 4,603,262; 4,607,156; 4,652,750; 4,673,805; 4,736,095; 4,760,120; 4,793,831; 4,816,660; 4,845,350; 4,896,026; 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; 5,304,900; 5,321,246; 5,324,924; 5,337,361; 5,367,151; 5,373,148; 5,378,882; 5,396,055; 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; 5,479,441; 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; 5,619,283; 5,627,359; 5,637,852; 5,664,229; 5,668,803; 5,677,139; 5,693,292; 5,698,835; 5,705,800; 5,714,746; 5,723,851; 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; 5,811,811; 5,821,519; 5,821,520; 5,823,812; 5,828,050; 5,850,078; 5,861,615; 5,874,720; 5,900,617; 5,902,989; 5,907,146; 5,912,450; 5,914,478; 6,002,918; 6,021,947; 6,047,892; 6,050,491; 6,053,413; 6,056,200; 6,065,678; 6,067,297; 6,068,190; 6,082,621; 6,084,528; 6,088,482; 6,092,725; 6,101,483; 6,102,293; 6,104,620; 6,341,584; 6,344,501; 6,359,483; 6,362,453; 6,363,700; 6,363,918; 6,370,478; 6,383,124; 6,391,250; 6,405,077; 6,406,581; 6,414,171; 6,414,172; 6,418,500; 6,419,548; 6,423,468; 6,424,035; 6,430,158; 6,430,159; 6,431,562  
Invention No.: 55,358; 62,539; 69,060; 69,187 (Taiwan); No. 1,601,796; 1,907,875; 1,955,269  
(Japan); European Patent 367,299; 414,281; 367,300; 367,298; UK 2,072,832; France 81/03938.



Quick Reference Guide

Wireless LAN Adapter  
LA-4100 Series PC Card



Declaration of Conformity

We, Symbol Technologies, Inc., of One Symbol Plaza, Holtsville, NY 11742-1300, USA declare under our sole responsibility that the product

**Spectrum24HR, LA4131, 11Mbps type II Radio Card**

**Spectrum24HR, LA4121, 11Mbps Type II Radio Card**

**Spectrum24HR, LA4111, 11Mbps Type II Radio Card**

to which this product relates, is in conformity with the following standards and/or other normative documents:

- EN 300 328-2 v1.1.1 (2000-07) Radio: 2.4GHz Spread Spectrum
- EN 301 489-1 v1.2.1 (7-2000) Part 1: EMC, Common technical requirement
- EN 301 489-17 v1.1.1 (9-2000) Part 17: Specific conditions for wide-band data and Hiperlan equipment
- EN 60950: 1992 Uncl. 1-4, 11: Safety of Information Technology Equipment.

We hereby declare that all essential radio test have been carried out and that the above named product is in conformity to all the essential requirements of Directive 1999/5/EC. The conformity assessment procedure referred to in Article 10(5) and detailed in Annex IV of Directive 1999/5/EC has been followed with the involvement of the following Notified Body(ies): BABT, Claremont House, 34 Molesey Road, Walton-on-Thames, KT12 4RQ.

Identification mark:

0168 The equipment also carries the Class 2 equipment identifier.

The technical documentation relevant to the above equipment can be made available for inspection on application to:

Symbol Technologies EMEA, Symbol Place, Winnersh Triangle, Berkshire, RG 41 5TP, UK

Dornu Narnor (name)	Senior Director, Regulatory (title)	 (signature of authorised person)	1 May 2001 (date)
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Customer Support

Symbol Technologies is committed to providing its customers with world-class customer service and technical support. The Symbol Support Center operates as the single point of contact for any technical problem, question or support issue. The Support Center operates all year, 24 hours a day, staffed by full-time professional Technical Specialists. If Symbol cannot solve the problem immediately within its tiered, technical-support center, access to all technical disciplines within Symbol become available for further assistance and support. First response/contact within 24 hours or one business day. Response by email, fax, or telephone.

North America Contacts

Inside North America, contact Symbol at:  
Symbol Technologies, Inc.  
One Symbol Plaza, Holtsville, New York 11742-1300  
Telephone: 1-516-738-2400/1-800-SCAN 234; Fax: 1-516-738-5990  
Symbol Support Center:  
Telephone: 1-800-653-5350; Fax: (516) 563-5410; Email: supppoet@symbol.com

International Contacts

Outside North America, contact Symbol at:  
Symbol Technologies Technical Support  
12 Oaklands Park; Berkshire, RG41 2FD, United Kingdom  
Telephone: 011-44-118-945-7000 or 1-516-738-2400 ext. 6213

Regulatory Compliance

Symbol RF products are designed to be compliant with the rules and regulations in the locations into which they are sold and will be labeled as required. The majority of Symbol RF devices are type approved and do not require the user to obtain license or authorization before using the equipment. Any changes or modifications to Symbol Technologies equipment not expressly approved by Symbol Technologies could void the user authority to operate the equipment.

Radio Frequency Interference Requirements

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the Federal Communications Commissions Rules and Regulation. 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 to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation. If the 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:

- Re-orient 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 which the receiver is connected

Radio Frequency Interference Requirements - Canada

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.  
Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.



To comply with FCC and Industry Canada exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop on similar configurations must operate with a minimum separation of 20cm from all persons.

European Economic Area

The European variant is intended for use throughout the European Economic Area, however authorization for use restricted as follows:

- European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400 - 2.4835 GHz.
- France, the equipment is to be restricted to the 2.4465 - 2.4835 GHz frequency range.
- Belgium outside, the equipment is to be restricted to the 2.460 -2.4835 GHz frequency range
- Operation in Italy requires a user license.

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## Introduction

The Spectrum24 LA-4100 series PC Card allows PC Card slot-equipped host systems to configure, connect to and establish a Spectrum24 wireless network.

Features include:

- Low-power operation for battery-powered devices with PC Card slots
- Windows 95, 98, 2000, ME and CE NDIS driver support
- Card and Socket Services Support
- WEP and Kerberos data security.

## Installing the PC Card

The physical PC Card installation differs for each system. Refer to the system manufacturer documentation for specific information.

**Note:** For instructions on installing and configuring the PC Card in a Windows CE environment, refer to the Spectrum24 Wireless LAN Adapter LA-4100 Series PC Card Product Reference Guide.

### Preparation

Spectrum24 PC Card drivers and Plus Pack management software are available from the Symbol Web site if a CDROM is not available for the PC Card installation. Go to ([http://www.symbol.com/services/downloads/download\\_spec24.html](http://www.symbol.com/services/downloads/download_spec24.html)) and download the driver and Plus Pack utilities for either the LA-4111, 4121, or 4131 PC Card. Once download, extract the files to the computer hard drive. Install the driver before installing the Plus Pack. If internet access is unavailable, contact your Symbol sales representative for a CD.

To install the Spectrum24 Plus Pack, click Start and select Run. Enter x:\pluspack\setup.exe. Where x is the letter assigned to the computer hard drive. Click OK, and complete the instructions displayed by the Windows operating system.

Keep the PC Card serial number in a safe place. Symbol Customer Service uses this number to reference warranty and service contract information. Verify the model indicated on the PC Card and packaging before use. Contact the Symbol Support Center if an item is missing or not functioning.

### Installation

The Spectrum24 PC Card installation requires:

- a computer with a Type II PC Card slot
- an available interrupt (IRQ) and available I/O port address
- a Spectrum24 driver installation CD or Internet access.

**Note:** Installation and removal methods vary for different host devices.

Refer to system documentation for information.

To install the PC Card:

1. Insert the PC Card in the host system PC slot.
2. Slide in the PC Card until it firmly seats.

**Caution!** Align the card properly when inserting. Insert firmly without forcing. Forcing the card can damage the device or the card.

## Installing and Configuring the Spectrum24 Driver in Windows 95/98

Before installing the Spectrum24 Windows driver:

- Verify the Spectrum24 PC Card is installed.
- Obtain the Spectrum24 Windows driver installation CD or establish Internet access.

### Installing the Driver in Windows 95

To install the driver in Windows 95:

**Note:** The Spectrum24 Windows driver ships with the Symbol Network Control Panel Applet (NCPA) utility. Use NCPA to view and configure Spectrum24 PC Card settings.

1. Install the Spectrum24 PC Card as described in the installation section.
2. Power up the system.
3. Insert the Spectrum24 driver installation CD if it is being used in the installation.
4. When Windows 95 recognizes the PC Card, an Update Device Driver Wizard dialog box appears requesting a driver to install. Click Next.
5. Click Finish when Windows displays the following message:  
Windows found the following updated driver for this device: Symbol Spectrum24 PC Card.
6. Complete the installation instructions displayed by the Windows 95 operating system.
7. Enter the network ESSID in the Symbol Easy Setup window. Click OK.
8. Click Finish. Reboot the computer when prompted by Windows 95.

### Installing the Driver in Windows 98

To install the driver for Windows 98:

**Note:** The Spectrum24 Windows driver ships with the Symbol Network Control Panel Applet (NCPA) utility. Use NCPA to view and configure Spectrum24 PC Card settings.

1. Install the Spectrum24 PC Card as described in the installation section.
2. Power up the system.
3. Insert the Spectrum24 driver installation CD if it is being used in the installation.
4. When Windows 98 recognizes the PC Card, the Add New Hardware dialog box appears. Click Next.
5. Select Search for best driver for your device. Click Next.
6. Select the location of the driver files. Click Next.
7. Click Next when Windows displays Spectrum24 WLAN PC Card.
8. Enter the network ESSID in the Symbol Easy Setup window. Click OK.
9. Click Finish. Reboot the computer when prompted by Windows 98.

### Configuring the PC Card for Windows 95/98

To configure the PC Card for Windows 95/98 support:

1. From the Windows 95/98 Control Panel, select Network and select Symbol PC Card. Click on the Properties tab.
2. From the Symbol Easy Setup window, click the Advanced button to view the PC Card settings.  
Use the NCPA Mobile Unit, Battery Usage, Mobile IP, Encryption, WLAN Adapter and Transmission Power tabs to view or adjust the PC Card configuration settings.
3. Exit and save the configuration settings by clicking OK or Finish. Select Cancel to use the default settings.
4. Restart the system for the changes to take effect.

## Installing and Configuring the Spectrum24 Driver in Windows ME

Before installing the Spectrum24 Windows driver:

- Verify the Spectrum24 PC Card is installed.
- Obtain the Spectrum24 Windows driver installation CD or establish Internet access.

### Installing the Driver in Windows ME

To install the driver in Windows ME:

**Note:** The Spectrum24 Windows driver ships with the Symbol Network Control Panel Applet (NCPA) utility. Use NCPA to view and configure Spectrum24 PC Card settings.

1. Install the PC Card as described in the installation section.
2. Power up the system.
3. Insert the Spectrum24 driver installation CD if it is being used in the installation.
4. Select the Specify the location of the driver checklist. Click Next.
5. Select the Search for best driver for your device checklist, and select the Specify a location checkbox.
6. Click the Browse button and search for the location of the NDIS5 driver files. Click OK when located.
7. Click Next when the Add New Hardware Wizard displays the location of the driver files. The Symbol Easy Setup dialog box displays.
8. Enter the ESSID in the Easy Setup window. Click OK.
9. Click Finish.
10. When prompted, restart the computer.

### Configuring the PC Card for Windows ME

To configure the PC Card for Windows ME support:

1. Click Start, and select Settings and Control Panel.
2. Select the Network icon and click on the Symbol PC Card.
3. Select the Properties button. The Symbol Spectrum24 Easy Setup dialog box displays.
4. Click the Advanced button to view default adapter settings.  
Use the Mobile Unit, Battery Usage, Mobile IP, WLAN Adapter and Transmission Power tabs to view or adjust the PC Card configuration settings.
5. Exit and save the configuration by clicking OK or Finish.
6. Restart the system for the changes to take effect.

## Installing and Configuring the Spectrum24 Driver in Windows 2000

Before installing the Spectrum24 Windows driver:

- Verify the Spectrum24 PC Card is installed.
- Obtain the Spectrum24 Windows driver installation CD or establish Internet access.

### Installing the Driver in Windows 2000

To install the driver in Windows 2000:

**Note:** The Spectrum24 Windows driver ships with the Symbol Network Control Panel Applet (NCPA) utility. Use NCPA to view and configure Spectrum24 PC Card settings.

1. Install the PC Card as described in the installation section.
2. Power up the system.
3. Insert the Spectrum24 Windows driver installation CD if it is being used on the installation
4. When the Found New Hardware Wizard dialog box displays, click Next. When Windows 2000 recognizes the PC Card, the Found New Hardware Wizard dialog box displays again.
5. Select the Search for a suitable driver for my device button. Click Next.
6. Specify the location of the Symbol driver files. Click Next.
7. Click Next when a message displays stating Windows found the device driver. When the driver download is complete, the Symbol Easy Setup dialog box displays.
8. Enter an ESSID in the Easy Setup window. Click OK.  
The Found New Hardware Wizard dialog box displays again stating Windows has finished installing the software required for this device.
9. Click Finish.

### Configuring the PC Card for Windows 2000

To configure the PC Card for Windows 2000 support:

1. From the Windows 2000 Control Panel, click the System icon and select the Hardware tab.
2. Click on the Device Manager button. Double-click on Network Adapters.
3. Right-click on the Spectrum24 WLAN adapter.
4. Select Properties. The Symbol PC Card Properties dialog box displays.
5. Select the Spectrum24 tab. The NCPA Easy Setup dialog box displays.
6. Select the Advanced button to view default adapter settings.  
Use the Mobile Unit, Battery Usage, Mobile IP, Encryption, WLAN Adapter and Transmission Power tabs to view or adjust the PC Card configuration settings.
7. Click OK or Close to save the PC Card configuration settings. Select Cancel to use the default values.

## Troubleshooting

If problems are encountered during the installation of the PC Card or driver, refer to Spectrum24 Wireless LAN Adapter LA-4100 Series PC Card Product Reference Guide or contact the Symbol Support Center (1-800-653-5350).

## Specifications

The LA-4100 series PC Card has the following specifications:

- Dimensions: 3.3 inches x 2.1 inches 0.2 inches (85 mm x 54 mm x 5 mm)
- Weight: 1.6 oz (45.36 g)
- Operating Temperature: 32 to 130° (0 to 55° C)
- Humidity: 95% maximum non condensing
- Altitude: Storage - 15,000 ft. (4.6 km) Operating - 8,000 ft. (2.4 km)
- Vibration: 2 G peak, sine; 0.02 G peak random (5 Hz - 2000 Hz)
- Shock: 40 G, 11ms, half sine
- ESD: meets CE-Mark
- PCMCIA Compliance: Type II version x.xx, Card and Socket Services x.xx

## Updating Adapter Firmware

Symbol recommends updating the Spectrum24 LA-4100 series PC Card to the latest firmware. Use the NICUpdate utility to update the firmware. Refer to the documentation shipped with the Spectrum24 Plus Pack utility suite for instructions on using NICUpdate. To download the latest firmware, go to ([http://www.symbol.com/services/downloads/download\\_spec24.html](http://www.symbol.com/services/downloads/download_spec24.html)).