Spectrum24®

Mobility Server

Model MS1000 | 802.11B | 11 Mbps

Quick Install Guide

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To the Installer

This guide provides guidelines and specifications for the Spectrum24 Mobility Server installation. It is intended for technicians responsible for the initial installation and commissioning of the Spectrum24 Mobility Server's hardware. It is assumed the installer understands network and wireless LAN concepts.

Document Conventions

Before operating any equipment, review this document for any hazards associated with installation and use of the device. Also, review standard practices for preventing accidents.

Indicates tips, hints and special requirements.

Care is required. Disregarding cautions can cause data loss or equipment damage.

Indicates a potentially dangerous condition or procedure that only Symbol-trained personnel should attempt to correct or perform.

Safety Information

Only qualified personnel can perform the Spectrum24 Mobility Server installation and removal. Ensure the location for installing the Spectrum24 Mobility Server is dry and dust-free.

Warnings

- Read installation instructions before connecting the Spectrum24 Mobility Server.
- Verify all equipment before connecting to its power source.
- Verify the unit is grounded before connecting to the power source. Connect power cord to a properly wired and grounded electrical circuit.
- Attach only approved cables to this device.
- Ensure adequate ventilation around the Spectrum24 Mobility Server.
- Ensure ambient operating temperature and humidity levels as per operation specifications.

Specifications and Installation

Overview

The Spectrum24 Mobility Server provides Kerberos authentication within the Spectrum24 wireless LAN network. This dedicated module delivers security management and network time services. The IP address assigned during installation provides Kerberos-enabled Access Points, System Administrators and Managers, access to the Spectrum24 Mobility Server.

The Spectrum24 Mobility Server is an encased device that can reside on a user desktop, as well as being wall or rack-mounted. A CompactFlash card can be added to the unit; a security bracket screws in place, blocking the ability to remove the card easily.

Specifications

Physical Specifications

Width	125 mm (with mounting bracket) 122 mm (without mounting bracket)
Height	32 mm
Depth	97 mm
Weight	0.13 kg

Product Specifications

Part Number	MS-1000-SME-WW (worldwide SKU)
Processor	206 MHz Intel StrongARM 1110
Memory	16 MB FLASH, 32 MB SDRAM

Expansion Memory	Available via CFA Slot
Management Interface	DB9 Serial Interface
Data Connectivity	10Base-T Ethernet
Mounting	Rack mount (with rack-mount bezel accessory) Wall mount Desk mount

Power Specifications

Max Power Consumption	100-240 VAC, 50/60 Hz, 0.5A
Operating Voltage	5.2 VDC
Operating Current	1 Amp
Input Frequency	50 Hz to 60 Hz

Environmental Specifications

Operating Temperature	0°C to 40°C
Storage Temperature	-25°C to 55°C
Operating Humidity	5% – 93% (Without condensation)
Storage Humidity	5% – 55% (Without condensation)
Operating Altitude	50 ft to 10,000 ft @ 28°C
Storage Altitude	50 ft to 15,000 ft @ 12°C
Electrostatic Discharge	8kV (air discharge) 4kV (contact discharge) 2kV (charge body)

Installation

Preparing for Site Installation

Verify Ethernet, serial port, and power connections. Determine equipment location. Ensure this location meets optimal temperature requirements for the operation of the Spectrum24 Mobility Server unit. If a static IP address is used for the device, this address, together with other network information such as subnet mask, gateway address, domain name and DNS server address, should be available prior to installation or commissioning.

Requirements

- LAN with Spectrum24 network
- APs and MUs installed
- PC terminal or console for direct connection to the Spectrum24 Mobility Server unit
- Philips screwdriver

Verifying Package Contents

Unpack the package contents and verify the following items are present:

Spectrum24 Mobility Server (MS-1000 series)

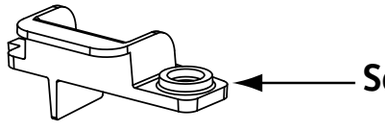
CompactFlash security kit:

- Security bracket
- 1 panhead screw

Wall mount kit:

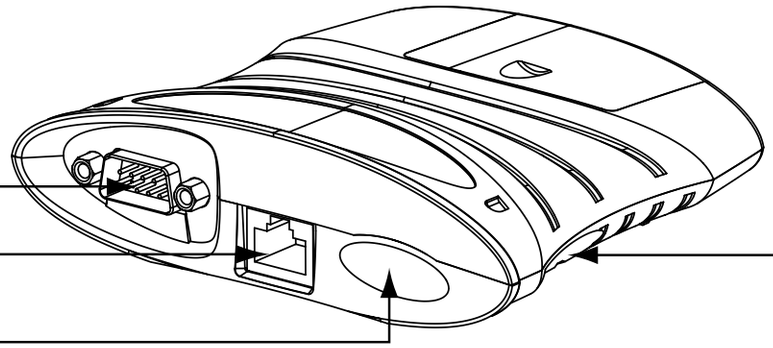
- 2 plastic wall anchors
- 2 panhead screw

DC power adapter



Security Bracket

Spectrum24 Mobility Server

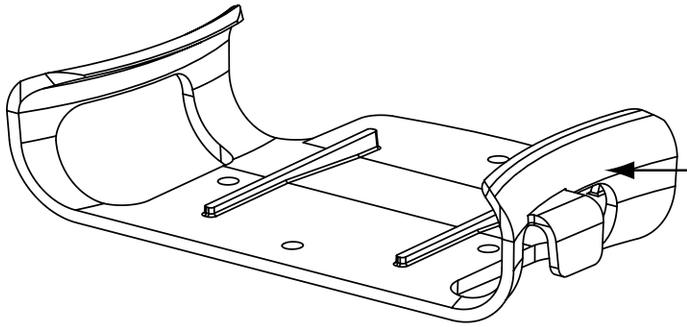


Serial Interface

Ethernet Port

LED Display

DC Power Jack

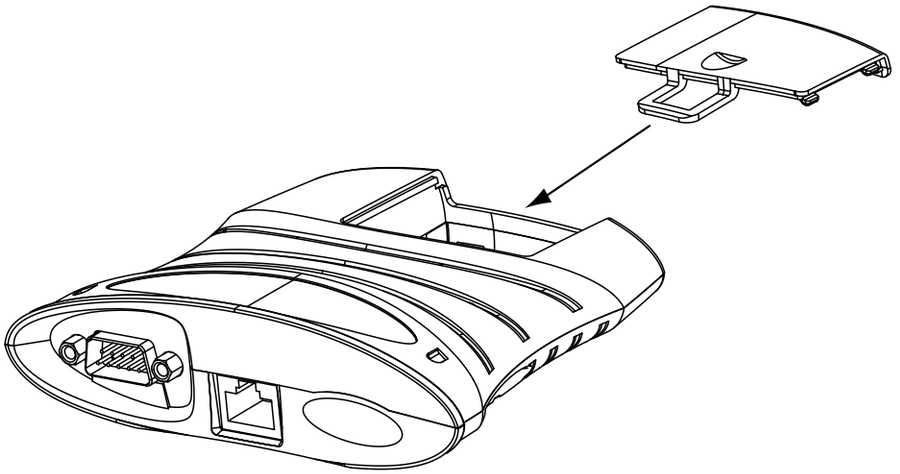


Wall Mount Bracket

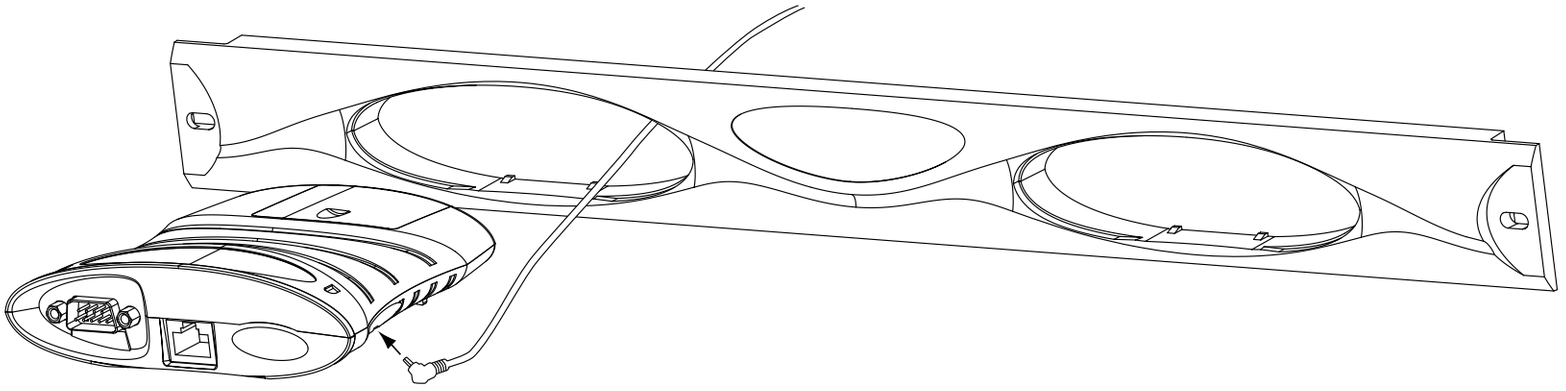
Rack Mounting

The following procedure requires the Spectrum24 Mobility Server bezel unit, purchased separately.

1. (Optional) Insert the CompactFlash card into the Spectrum24 Mobility Server. Add the unit door to the slot designated for the CompactFlash card.

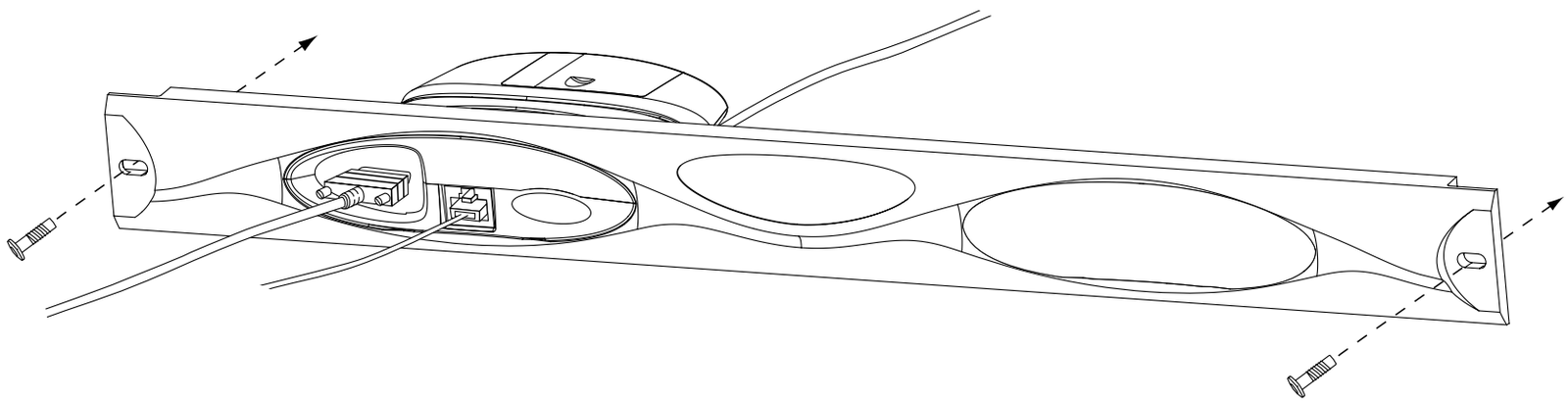


2. Connect the DC power cable from the power outlet through the gaps in the bezel to the power jack on the Spectrum24 Mobility Server.



The LED will flash red when the DC adapter is properly connected.

3. Connect a RS-232 cable from the PC console (or terminal) to the Spectrum24 Mobility Server's serial port.
4. Connect a crossover Ethernet cable from the console (or network connection if DHCP is used) to the Spectrum24 Mobility Server's Ethernet port.
5. If a redundant Spectrum24 Mobility Server is not used, push the bezel plug (flat side down) through one of the openings in bezel until anchored in place.
6. Place the unit in the bezel by pushing it through the gap until device is held in place and power cable is secure. When properly mounted, the power cable will not separate from the unit.
7. Secure the bezel to the front of the rack using two screws.

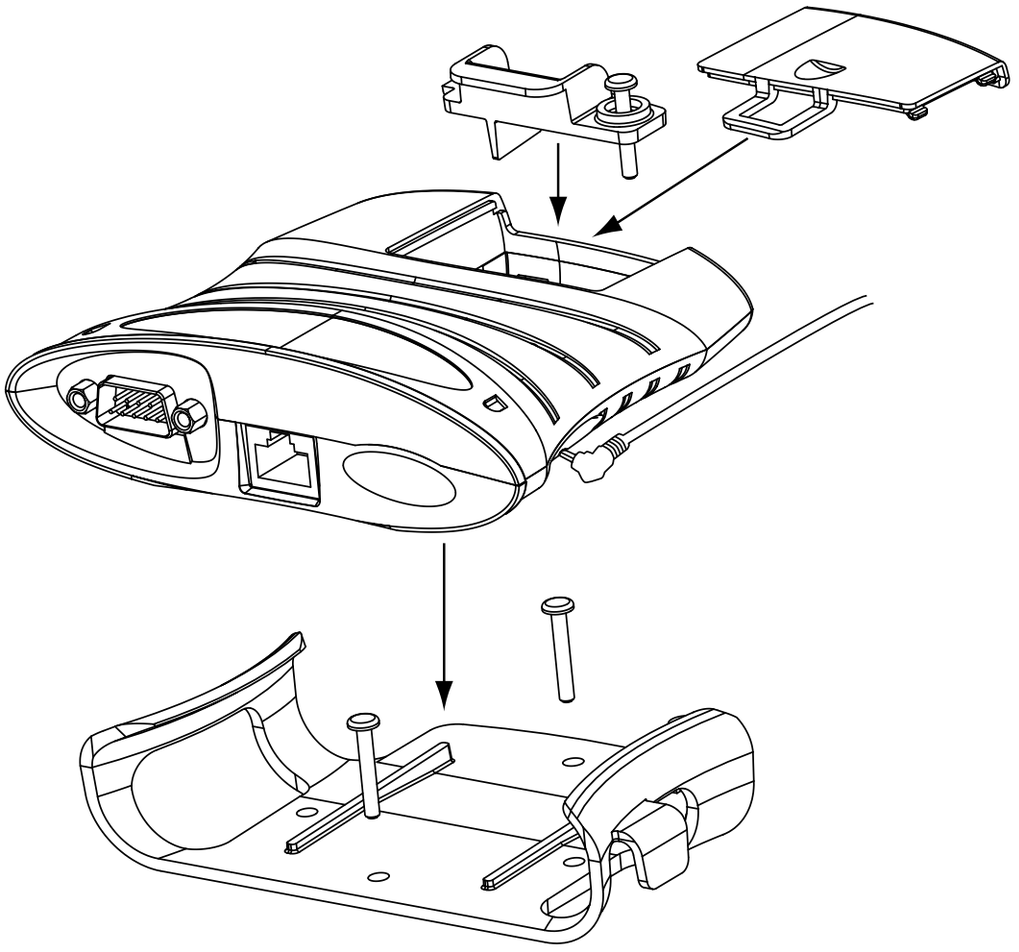


Note

Refer to the instructions under Provisioning to complete the installation of the Spectrum24 Mobility Server within the network environment.

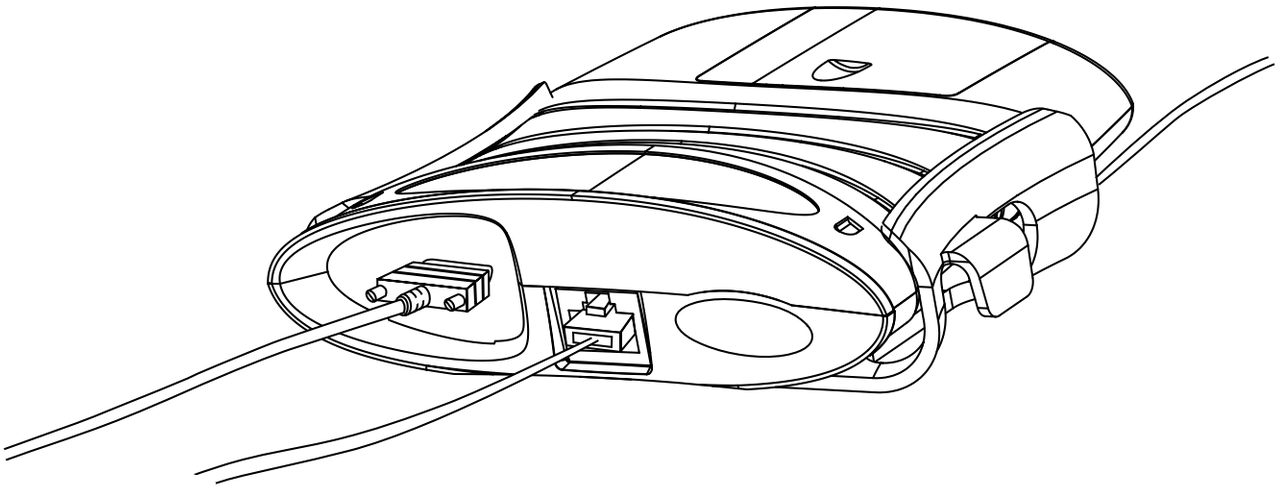
Wall Mounting

1. Using the supplied screws and wall anchors, attach the wall mount bracket to the designated surface.
2. Connect the DC adapter from the power outlet to the power jack on the Spectrum24 Mobility Server. The LED will flash red when the DC adapter is properly connected.
3. Snap the Spectrum24 Mobility Server unit into the wall mount bracket.
4. (Optional) Insert the CompactFlash card into the Spectrum24 Mobility Server. Secure the security bracket in the slot behind the CompactFlash card and place the enclosed screw through the available opening.



Add the unit door to the slot designated for the CompactFlash card.

5. Connect a RS-232 cable from the PC console (or terminal) to the Spectrum24 Mobility Server's serial port.
6. Connect a crossover Ethernet cable from the console (or network connection if DHCP is used) to the Spectrum24 Mobility Server's Ethernet port.



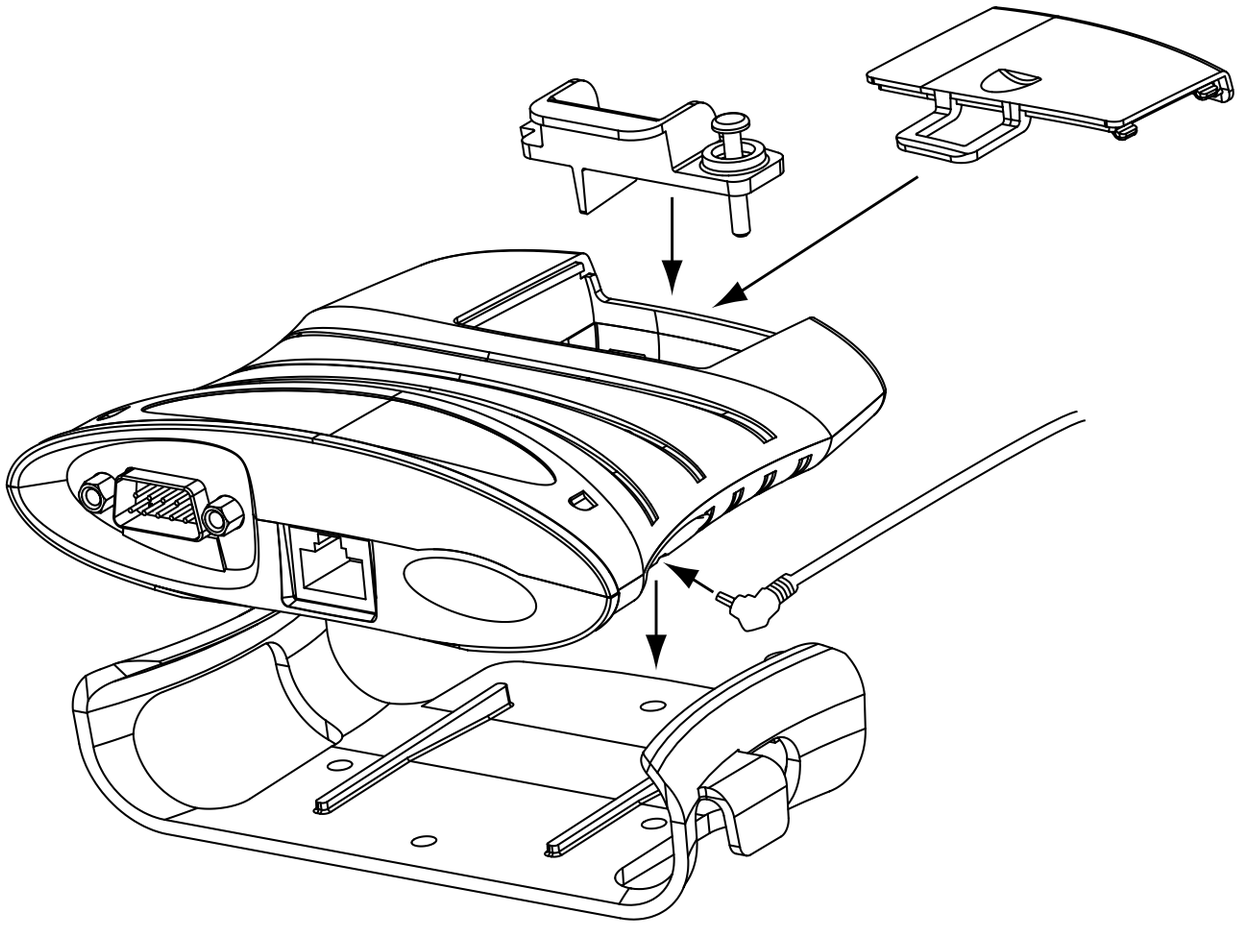
Front

Note

Refer to the instructions under Provisioning to complete the installation of the Spectrum24 Mobility Server within the network environment.

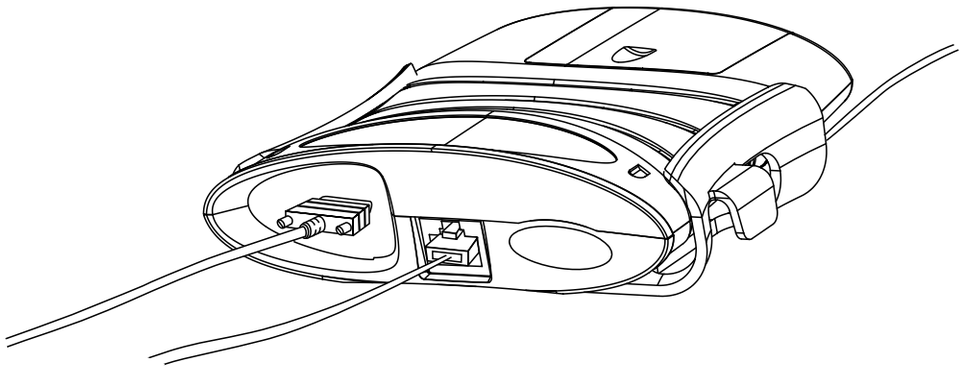
Desktop Mounting

1. Connect the DC power adapter from the power outlet to the power jack on the Spectrum24 Mobility Server. The LED will flash red when the power adapter is properly connected.
2. Snap the Spectrum24 Mobility Server unit into the wall mount bracket.
3. (Optional) Insert the CompactFlash card into the Spectrum24 Mobility Server. Place the security bracket in the slot behind the CompactFlash card and install the supplied screw through the security bracket.



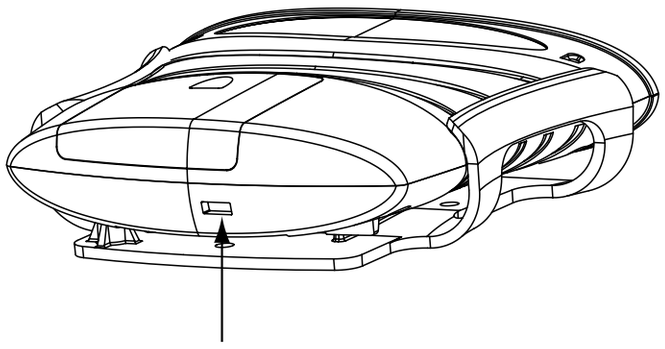
Add the unit door to the slot designated for the CompactFlash card.

4. Connect a RS-232 cable from the PC console to the Spectrum24 Mobility Server's serial port.
5. Connect a crossover Ethernet cable from the computer console (or network connection) to the Spectrum24 Mobility Server's Ethernet port.



Front

6. (Optional) A standard laptop key lock accessory may be attached to the Spectrum24 Mobility Server unit.



Back

Note

Refer to the instructions under Provisioning to complete the installation of the Spectrum24 Mobility Server within the network environment.

Provisioning

1. From the PC terminal or console connected to the Spectrum24 Mobility Server, configure a terminal emulation application with the following parameters:

   Bits per second: 38400

   Data bits: 8

   Parity: none

   Stop bits: 1

   Flow control: Xon/Xoff

2. From the login prompt displayed on the terminal screen, log into the Spectrum24 Mobility Server by using the following inputs:

   Login: ipset

   Password: ipset

Press **Enter** to display the login prompt if it is not immediately visible after configuring the terminal emulation application.

3. Enter a new host name when prompted with the following message:

   Enter a new host name (lowercase letters or numbers only) or type return to accept the existing one [s24ms]

   Lowercase alphanumeric characters are required.

   To preserve the current Symbol default, press **Enter** without entering a host name.

4. For a Spectrum24 Mobility Server with a static IP address, enter n at the following prompt:

   Do you wish to use DHCP to obtain an IP address? (y/n)

   When requested, enter the following information:

   IP Address

   Subnet Mask

   Gateway Address

   To save these changes, input y at the following prompt:

   Do you wish to commit these changes? (y/n)

5. Alternatively, if a DHCP server is available on the network, a dynamic IP address may be generated by entering y at the following prompt:

   Do you wish to use DHCP to obtain an IP address? (y/n)

   The Spectrum24 Mobility Server's IP address will display to the screen; note the new IP address for browser access. Administrative tasks are performed through an internet browser and requires this IP address.

Customer Support

Symbol Technologies provides its customers with prompt and accurate customer support. Use the Symbol Support Center as the primary contact for any technical problem, question or support issue involving Symbol products. If the Symbol Customer Support specialists cannot solve a problem, access to all technical disciplines within Symbol becomes available for further assistance and support. Symbol Customer Support responds to calls by email, telephone or fax within the time limits set forth in individual contractual agreements.

When contacting Symbol Customer Support, please provide the following information:

- Device serial number
- Product name and/or model number
- Software type and version number

North American Contacts

Inside North America, contact Symbol at:

Symbol Technologies, Inc.
One Symbol Plaza
Holtsville, New York 11742-1300
Telephone: 1-631-738-2400/1-800-SCAN 234
Fax: 1-631-738-5990

Symbol Support Center
Telephone: 1-800-653-5350
Fax: (631) 563-5410
Email: support@symbol.com

International Contacts

Outside North America, contact Symbol at:
Symbol Technologies, Inc.
Symbol Place
Winnersh Triangle, Berkshire, RG41 5TP
United Kingdom
0800-328-2424 (Inside UK)
+44 118 945 7529 (Outside UK)

Symbol Developer Program Web Site

http://software.symbol.com/devzone

Symbol Knowledge Base

http://kb.symbol.com/register.asp

Additional Information

Obtain additional information by contacting Symbol at:

1-800-722-6234, inside North America
+1-631-738-5200, in/outside North America
http://www.symbol.com/

Regulatory Information

All Symbol devices are designed to comply 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.

Power Supply

Note: Use only a Symbol-approved power supply 50-14001-001 output rated 5.2 Vdc and minimum 1 A. The power supply is certified to EN60950 with SELV outputs.
Hinweis: Benutzen Sie nur eine Symbol Technologies genehmigt Stromversorgung 50-14001-001 in den Ausgabe: 5.2 Vdc und minimum 1 A. Die Stromversorgung ist bescheinigt nach EN60950 mit SELV Ausgabe

Radio Frequency Interference Requirements

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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.

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.

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)

Statement of Compliance

Symbol Technologies, Inc., hereby declares that this device is in compliance with all the applicable Directives, 89/336/EEC, 73/23/EEC. A Declaration of Conformity may be obtained from http://www2.symbol.com/doc/

Copyright

Patents

This product is covered by one or more of the following U.S. and foreign Patents: U.S. Patent No. 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.

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; Italy 1,138,713

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