

proxim

Harmony

A large, stylized, light gray 'X' graphic that spans across the lower half of the page. It is composed of two intersecting chevron-like shapes, one pointing towards the top-right and the other towards the bottom-left.

Harmony 802.11a Access Point

User's Guide

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Whether such damages be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.

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FCC WARNING



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 the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Harmony 802.11a Access Point Model 8570 User's Guide

Part # 7360.0150

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Chapter 1

Introduction

Thank you for choosing Proxim's Harmony 802.11a Access Point, a member of Proxim's Harmony wireless infrastructure family. The Harmony 802.11a Access Point complies with the IEEE 802.11a wireless standard to provide mobile clients with network connectivity at high speed data rates of up to 108 Mbps (in 2X™ mode).

The Harmony 802.11a Access Point is used in conjunction with a Harmony Access Point Controller as part of a single wireless networking solution that supports all current and future wireless network standards including OpenAir, IEEE 802.11b and IEEE 802.11a simultaneously within a single, homogeneous architecture. A Harmony system which includes Access Point Controllers and Access Points provides centralized management, configuration and security for a wireless network.

Proxim is the leading supplier of wireless networking solutions. Proxim's unmatched expertise in spread spectrum radio networking technology, combined with the company's extensive experience serving the communication needs of the mobile computing user, have kept Proxim at the forefront of the wireless LAN market.

The Harmony Family

The Harmony 802.11a Access Point is a member of a product family that provides a complete wireless networking solution.

- The **Harmony Access Point Controller Model 7560** centralizes the management, security, and filtering capabilities of a wireless LAN. The Access Point (AP) Controller communicates with Harmony Access Points over the Ethernet network to provide wireless network access for mobile clients. The AP Controller can support multiple Access Points, even if each complies with a different wireless standard.
- The **Harmony Access Point** is a networking bridge that operates at Layer 2 of the OSI networking model. Working in conjunction with a Harmony AP Controller, the AP forwards packets between its radio and the Ethernet network. Three models of the Harmony AP are available to support the IEEE 802.11a, IEEE 802.11b or OpenAir wireless standards: the **802.11a Access Point 8570**, the **802.11b Access Point Models 8550/8551** and the **OpenAir Access Point Model 7550**.
- The optional **Harmony Power System Model 7562** provides DC power to Harmony APs over the unused pins of a twisted pair Ethernet cable.
- The **Harmony 802.11a CardBus Card** is a wireless LAN adapter that fits into a CardBus slot in a laptop computer. It supports IEEE 802.11a wireless standards.
- The **Harmony PC Card** is a wireless LAN adapter that fits into a PCMCIA Type II slot in a laptop computer. The 8430 Series supports the IEEE 802.11b wireless standards, and the 7430 Series supports OpenAir wireless standards.
- The **Harmony CompactFlash Card** is a wireless LAN adapter that fits into a CompactFlash slot in a Pocket PC. Two models are available to support the IEEE 802.11b (8630) or OpenAir (7630) wireless standards.
- The **Harmony 802.11b PCI Card Model 8110** is an 802.11b-compliant wireless LAN adapter that fits into a standard PCI expansion slot.
- The **Harmony OpenAir USB Adapter Model 7230** is an OpenAir compliant wireless LAN adapter that connects to a Windows 98/ME/2000 computer's Universal Serial Bus (USB) port.

Requirements

To begin using the Harmony 802.11a Access Point, you must have the following items installed on your local network:

- A Harmony AP Controller
- A 10Base-T Ethernet or 100Base-TX Fast Ethernet switch or hub
- At least one 802.11a adapter

Package contents




Each Harmony 802.11a Access Point package includes:

- One Harmony 802.11a Access Point
- One power adapter (12V, 1 Amp)
- One Harmony 802.11a Access Point User's Guide
- One warranty registration card

Access Point Overview



Top Panel LEDs

The top panel LEDs are (from left to right) the Status  Wireless  and Ethernet  LEDs.

Status LED

The Status LED gives information about the Access Point.

Table 1: Status LED

LED	Indication
Off	Unit not powered on
Lit solid amber	Unit is initializing or is not partnered with an AP controller
Blinking amber	Unit needs new firmware
Lit solid green	Unit is partnered with an AP controller and operational
Blinking red	Problem with unit

Wireless LED

The Wireless LED blinks green when the Access Point receives data packets over the wireless network.

Ethernet LED

The Ethernet LED blinks green when the Access Point receives data packets over the Ethernet port.

Rear Panel**Ethernet Port**

This port connects the Access Point to your 10/100Base-T Ethernet network using a straight-through Ethernet cable.

Ethernet Link/Activity LED

The Link LED is lit solid green when the Access Point is connected at 100Mbps to the Ethernet network, and lit solid amber when connected at 10Mbps. It will blink to indicate activity on the Ethernet network.

Power Port

The Harmony 802.11a Access Point requires power from either a Harmony Power System or from an external power supply. If you are not using the Harmony Power System, connect the power supply that came with your Harmony 802.11a Access Point to the power port. Use only the supplied Class 2 power supply (12V, 1 Amp).

Chapter 2

Installation

The Harmony 802.11a Access Point requires a Harmony Access Point Controller. The AP Controller must be installed on the network before the Harmony Access Point can be installed and configured. See the User Guide that came with your Harmony Access Point Controller for instructions on how to install and configure Access Points on a Harmony network.

Pre-installation Considerations

Regulatory Warnings

FCC Guidelines

It is the responsibility of the installer and users of the Harmony 802.11a Access Point to guarantee that the antenna is operated at least 20 centimeters from any person. This is necessary to insure that the product is operated in accordance with the RF Guidelines for Human Exposure which have been adopted by the Federal Communications Commission.

Radio Frequency interference requirements

The Harmony 802.11a Access Point Model 8570 operates in the frequency range of 5.15 to 5.35 GHz; it is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC 15.407(e) requires that the device be used indoors in the frequency range of 5.15 to 5.25 GHz to reduce the potential or harmful interference to co-channel Mobile Satellite systems. Therefore the device should be used indoor only for channel 36, 40, 44 and 48 and when 2X™ mode is enabled, channel 42 and 50. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz band. These radar stations can cause interference with and/or damage the Harmony 802.11a Access Point.

Installation

Determine the best location for the Harmony 802.11a Access Point using the following considerations:

- The length of the Ethernet cable that connects the Access Point to the network must not exceed 100 meters.
 - Place the Access Point indoors, on a flat, sturdy surface as far from the ground as possible, such as on top of a desk or bookcase, keeping clear of metal obstructions and away from direct sunlight.
 - Try to centrally locate the Access Point so that it will provide coverage to all of the wireless devices in the area.
1. Place the Access Point in the desired location.
 2. Connect the Ethernet port on the rear panel of the Access Point to a 10/100Base-T network hub, switch, router or patch panel using a straight-through Category 5 Ethernet cable.
 3. If you are not using the Harmony Power System to supply power to the Access Point, use the AC power adapter included in the product package to connect the power port on the Access Point to a working power outlet. Use only the power adapter supplied by Proxim in the product package. Using another power supply may damage the Access Point.
 4. The Link LED on the rear panel will light to indicate that the Access Point has a network connection. The LED is lit green if connected to a 100Base-TX network, and lit amber if connected to a 10Base-T network.
 5. By default, the Harmony 802.11a Access Point will attempt to find an AP Controller to partner with. If you have one or more AP Controllers on the network, an AP Controller will automatically detect and configure the Access Point over the network (assuming you have not disabled the Harmony system's ability to automatically detect new Access Points). Refer to the Harmony Access Point Controller User's Guide for more information on how to configure an Access Point.

Chapter 3

Configuration Parameters

The Harmony 802.11a Access Point must be used in conjunction with a Harmony AP Controller. A Harmony system generally consists of one or more Harmony AP Controllers, one or more Harmony Access Points, and one or more mobile clients that have an 802.11a adapter installed. Each Access Point acts as an intermediary between its mobile clients and the AP Controller, converting radio signals into Ethernet packets and vice versa. The Harmony AP Controller handles all of the configuration and management of the Access Points on the network, monitoring Ethernet traffic and determining which packets should be forwarded to mobile clients.

An Access Point and Controller use a technique known as **IP Tunneling** to encapsulate packets destined for or sent by mobile clients. Encapsulated packets from the Access Point are destined for the AP Controller's IP address; encapsulated packets from the AP Controller are destined for the Access Point's IP address.

A single AP Controller can support a maximum of 10 Access Points (an AP Controller can support more than 10 Access Points but a maximum of 10 Access Points per AP Controller is the recommended configuration for best performance). A network subnet can support up to 10 AP Controllers to form a Harmony system that can be managed using a single user interface. The number of clients that can be supported by one Access Point depends on the amount of information that each client exchanges with the network. Therefore, the number of clients that can be supported by one Access Point will vary based on the applications in use and how frequently network information is accessed.

An Access Point and AP Controller do not need to be on the same switch or hub in order to communicate. In addition, Access Points may be installed on different IP subnets from the AP Controller(s) on the local subnet.

When a Harmony 802.11a Access Point is connected to the network for the first time, the AP Controller automatically configures it with the AP AutoConfigure Default settings. Refer to the Harmony Access Point Controller User's Guide for additional information about AP Controllers and the Harmony architecture.

The IEEE 802.11a Specification

In 1997, the Institute of Electrical and Electronics Engineers (IEEE) adopted the 802.11 standard for wireless devices operating in the 2.4 GHz frequency band. This standard includes provisions for three radio technologies: direct sequence spread spectrum, frequency hopping spread spectrum, and infrared. Devices that comply with the 802.11 standard operate at a data rate of either 1 or 2 Mbps.

In 1999, the IEEE modified the 802.11 standard to support devices operating in the 5 GHz frequency band, calling this new standard **802.11a**. 802.11a devices are not backwards compatible with 2.4 GHz 802.11 or 802.11b devices. 802.11a radios use a radio technology called Orthogonal Frequency Division Multiplexing (OFDM) to achieve data rates of up to 54 Mbps.

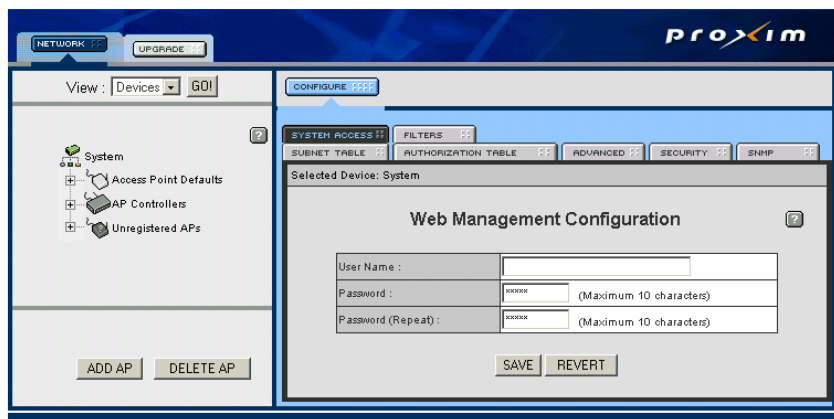
In addition, Proxim's Harmony 802.11a products support 2X™ Mode. This mode is not part of the IEEE 802.11a specification but it allows data rates of up to 108 Mbps. See "2X Mode" on page 14 for details.

802.11a Access Point Configuration

All Harmony Access Points are configured automatically by the AP Controller or manually using the AP Controller interface. See the User Guide that came with your Harmony AP Controller for information about configuring the Access Point.

Once an Access Point is added to a Harmony network, an AP Controller on that network will automatically configure it for operation. The AP Controller automatically assigns the Access Point a Channel and configures the other networking parameters using the AP Defaults settings.

Once configured, the Access Point should automatically appear as an entry in the AP Controller's Web browser interface. (If not, you may need to manually add it. See "Manually Adding a New Access Point" section in your AP Controller manual.)



Follow these steps to configure one of the Access Point Parameters:

1. Click the plus sign to the left of an AP Controller to view the list of its partnered Access Points.
2. Click the icon that corresponds to the Access Point that you want to configure, as shown in the following example.
3. Edit one or more of the Access Point Parameters.
4. Click Save.
5. Recycle power on the Access Point if you changed any of its IP parameters.

Auto Configure Default Parameters

The AP Controller's Web interface lists each Access Point underneath the AP Controller with which it is partnered. (An Access Point that is not currently partnered with an AP Controller listed as an Unregistered AP.) The AP Controller will assign default settings to a new Access Point automatically. These settings can be changed using the AP Controller's Web utility. See your AP Controller manual for more information.

The Access Point Configuration Parameters are divided into three categories:

- Basic Settings
- Security Settings
- Advanced Settings

Basic Settings

AP Name

The AP Controller assigns an AP Name to each Access Point that it automatically detects and configures. By default, the AP Name is the device's physical address, but you can assign a different 21 character name to the Harmony Access Point.

Physical Address

A Harmony Access Point's physical address is assigned at the factory and cannot be changed by the end user. The physical address or MAC address is a 48-bit unique identifier assigned to each networking device.

Enable AP

AP is enabled by default, which allows the Access Point to operate normally, providing mobile clients with access to the Ethernet network. When disabled, the Access Point cannot partner with an AP Controller or communicate with mobile clients.

Partnered APC

By default, an Access Point can partner with any AP Controller on the Harmony System. You can change this setting to force new Access Points to partner with a specific AP Controller. If you do not wish to specify which AP Controller on the Harmony System the Access Point should partner with, then leave the default **Any** option selected.

Channel

In the United States, the Harmony 802.11a CardBus Card with integral antenna can use eight Channels in 802.11a-compliant mode: Channel 36 (5.18 GHz), Channel 40 (5.20 GHz), Channel 44 (5.22 GHz), Channel 48 (5.24 GHz), Channel 52 (5.26 GHz), Channel 56 (5.28 GHz), Channel 60 (5.30 GHz), and Channel 64 (5.32 GHz).

In the United States, the Harmony 802.11a CardBus Card with integral antenna can use three Channels in 2X mode: Channel 42 (5.21 GHz), Channel 50 (5.25 GHz), and Channel 58 (5.29 GHz). See “Radio Frequency interference requirements” on page 7 for important regulatory information concerning Channel selection.

Radio Frequency interference requirements

The Harmony 802.11a Access Point is restricted to indoor use only. FCC 15.407(e) requires this product to be used indoors in the frequency range of 5.15 to 5.25 GHz. Therefore the device should be used indoor only for channel 36, 40, 44, and 48 and when 2X mode is enabled, channel 42 and 50.

SSID

By default, the Harmony System will configure new Access Points with **proxim** as the SSID. The SSID is a string of up to 32 ASCII characters that must match on all communicating 802.11b devices within the same network. All Harmony Access Points and Harmony clients must use the same SSID to allow roaming between Access Points.

IP Addressing

The default setting allows the Access Point to receive an IP Address from a DHCP server (such as an AP Controller) on the local network. Otherwise, enter a static IP Address, Subnet Mask and Default Gateway into the fields provided.

Security Settings

WEP Encryption

The IEEE 802.11a standard specifies an optional encryption feature, known as Wired Equivalent Privacy or WEP, that is designed to provide a wireless LAN with a security level equal to what is found on a wired Ethernet network. WEP encrypts the data portion of each packet exchanged on the 802.11a network using a 40-bit, 128-bit, or 152-bit encryption algorithm. By default, WEP Encryption is off. When WEP is enabled, all 802.11a devices within the same Extended Service Set (ESS) or Ad Hoc network must have the same WEP encryption option and WEP Keys to communicate.

WEP Keys

An 802.11a device with WEP enabled uses a WEP Key to encrypt and decrypt information. If the WEP Keys do not match on two radios, no data communication will take place between these devices. For 40-bit encryption, a WEP Key is 10 hexadecimal digits (0-9 and A-F); for 128-bit encryption, a WEP Key is 26 hexadecimal digits (0-9 and A-F); and for 152-bit encryption, a WEP Key is 32 hexadecimal digits (0-9 and A-F).

Advanced Settings

Supported Rates

By default, Access Points will support all data rates. The IEEE 802.11a specification supports eight data rates: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps. Harmony's 2X mode supports eight data rates: 108 Mbps, 96 Mbps, 72 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, and 12 Mbps.

RTS/CTS

The 802.11a standard supports optional RTS/CTS communication based on packet size. Without RTS/CTS, a sending radio listens to see if another radio is already using the medium before transmitting a data packet. This helps to minimize collisions.

You may configure a Harmony 802.11a AP to never use RTS/CTS or to use RTS/CTS for packets over a certain size. The RTS/CTS Threshold parameter supports a range between 1 and 2345 Bytes. When set to 1, a sending radio will use RTS/CTS before transmitting any packet. By default, RTS/CTS is disabled.

2X Mode

By default, 2X Mode is disabled. 2X mode is a high-speed mode to achieve data rates of up to 108 Mbps, twice the speed of standard 802.11a devices. When 2X Mode is disabled, Harmony 802.11a devices comply with the IEEE 802.11a standard and can operate on one of four Channels, achieving speeds of up to 54 Mbps. When 2X Mode is enabled, Harmony 802.11a devices do not comply with the IEEE 802.11a standard, can operate on one of two Channels, and can achieve speeds of up to 108 Mbps.

Note: You must configure all devices in the same network to use 2X mode. A device in 2X mode cannot communicate with a device in 802.11a mode.

Roaming Between Access Points

A mobile client can roam between Access Points located on different IP networks as long as the Access Points on the remote networks are partnered to an AP Controller on the local network. The client maintains an uninterrupted connection to the network and retains its assigned IP address that is valid on the local subnet.

This feature requires that the network administrator configure the AP Controller with a list of subnets used in the facility so the AP Controller and Access Points can communicate with each other across the router. Refer to the Harmony Access Point Controller User's Guide for more information.

Roaming Guidelines

- An 802.11a CardBus Card can only roam between 802.11a Access Points.
- All Harmony 802.11a Access Points must have the same SSID.
- All workstations with Harmony 802.11a client adapters must have the same SSID as the Access Points that they will roam between.
- If WEP encryption is enabled, then all 802.11a Access Points and client adapters must use the same encryption level and WEP Key(s) to communicate.
- The Access Points' cells must overlap to ensure that there are no gaps in coverage and to ensure that the roaming client will always have a connection available.
- All Access Points in the same vicinity should use a unique, independent Channel.
- Access Points that use the same Channel should be installed as far away from each other as possible to reduce potential interference.

Chapter 4

Troubleshooting

The Harmony 802.11a Access Point is designed to be very easy to install and operate. However, if you experience difficulties, use the information in this chapter to help diagnose and solve problems. Refer to the Harmony Access Point Controller User's Guide for additional instructions.

If you cannot resolve a problem, contact Proxim Technical Support. See “How to Reach Technical Support” on page 23.

If you require assistance to install your local network, Proxim can put you in contact with a Harmony reseller in your area. The reseller is an expert in the design, installation, and maintenance of local networks and will be able to examine your needs and recommend the most cost-effective solution for your local network, whether you are installing a new local network or adding on to an existing one. For the location of the Harmony reseller nearest you, contact Proxim at 1800-229-1630 and ask for the Sales Department.

LED Error Codes

The Status LED on the top of the Harmony 802.11a Access Point will flash red in a repeating pattern to indicate the following errors:

- 1 blink.....Memory error
- 2 blinks.....Flash write error
- 3 blinks.....Ethernet initialization error
- 4 blinks.....Radio initialization error

If you see any of the above flashing sequences, recycle power to the Access Point. If the flashing sequence persists after you have reset the unit, make a note of which of the above patterns you have and contact Proxim Technical Support.

Common Problems and Solutions

Table 2: Troubleshooting steps

Problem	Solution
<p>The Harmony 802.11a Access Point does not automatically register with a Harmony AP Controller.</p>	<p>Confirm that the Link LED is on. If the LED is not on, check your connection to the local Ethernet network. Try another Ethernet cable.</p> <hr/> <p>Try repowering the unit. The Access Point will try to contact an AP Controller during boot-up. If you are using the external AC power supply, you should connect the AP to the Ethernet network before turning on the unit.</p> <hr/> <p>Try to manually add the Access Point as described in the Harmony Access Point Controller User's Guide.</p>
<p>My 802.11 a CardBus Card will not associate with the Harmony 802.11a Access Point.</p>	<p>Make sure the CardBus Card is in range.</p> <hr/> <p>Confirm that the Access Point and CardBus Card have the same SSID.</p> <hr/> <p>Confirm that the Access Point and CardBus Card have the same Encryption settings, if enabled.</p> <hr/> <p>Confirm that the Access Point is partnered with an AP Controller.</p>
<p>The Status LED is amber.</p>	<p>The Status LED will turn solid amber if the unit is initializing or has successfully initialized but could not find an AP Controller to partner with.</p> <hr/> <p>The Status LED will blink amber if the Access Point requires new firmware. Check Proxim's Web site at http://www.proxim.com/support/.</p>
<p>The throughput seems slow.</p>	<p>Verify that your Access Point's wireless antenna is not blocked by metal or other obstacles.</p> <hr/> <p>Add another Access Point to the network.</p>
<p>My office has an existing 802.11b network. Is the Harmony 802.11a CardBus Card compatible?</p>	<p>No. 802.11a devices are not compatible with 802.11b devices.</p>

Table 2: Troubleshooting steps

Problem	Solution
I want to install a Harmony 802.11a network in my office that has an existing 802.11b network. Will the 802.11a network interfere with the 802.11b network?	No. 802.11a and 802.11b devices will not interfere with each other since they operate at different frequencies. 802.11a devices operate in the 5 GHz band, and 802.11b devices operate in the 2.4 GHz band.
Is the Harmony 802.11a Access Point compatible with 802.11a products from other vendors?	Yes, the Harmony 802.11a product line is interoperable with 802.11a-compliant products from other vendors. However, the 2X mode which achieves data rates up to 108 Mbps is only compatible with Harmony 802.11a products from Proxim.
In throughput tests, the 802.11a CardBus Card doesn't seem to transfer data as quickly as I'd expect.	Data rate is the raw signaling rate of a networking device; it does not equal data throughput. Actual data throughput is always less than the data rate since some of the available bandwidth is used to send control messages and regulate activity over the wireless medium. Also, throughput will depend on several factors such as network overhead, the file transfer program in use, the computer's operating system, and the computer's processor speed.

Range

Every environment is unique with different obstacles, barriers, materials, etc., and, therefore, it is difficult to determine the exact range that will be achieved without testing. Radio signals may reflect off of some obstacles or be absorbed by others depending on their construction.

The IEEE 802.11a specification supports eight data rates: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps. Harmony's 2X mode supports eight data rates: 108 Mbps, 96 Mbps, 72 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, and 12 Mbps. Operation at 6 Mbps or 12 Mbps provides greater range than operation at 54 Mbps or 108 Mbps.

By default, a Harmony 802.11a CardBus Card will automatically adjust the data rate to maintain a usable radio connection. Therefore, a client that is close to an Access Point may operate at 54 Mbps while a client that is on the fringe of coverage may operate at 6 Mbps.

Appendix A

Technical Specifications

The following technical specification is for reference purposes only. Actual product's performance and compliance with local telecommunications regulations may vary from country to country. Proxim, Inc. will only ship products that are type approved in the destination country.

Technical Specifications

Network Interface	Ethernet 10Base-T /100Base-TX
Data Rate	54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps in 802.11a mode; 108 Mbps, 96 Mbps, 72 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps in 2X mode
Media Access Protocol	IEEE 802.11a
Ethernet Compatibility	IEEE 802.3, 802.3u
Frequency Band	5.15-5.35 GHz (Orthogonal Frequency Division Multiplexing)
Channels	8 in U.S. (802.11a mode); 3 in U.S. (2X mode)
Operating Temperature	0°C to +50°C

Parameters

Parameter	Range	Default
Use DHCP	Yes, No	Yes
Static IP Address	-	0.0.0.0
Static Subnet mask	-	0.0.0.0
Static Gateway IP Address	-	0.0.0.0
Supported Rates		All
2X Mode	Enabled, Disabled	Disabled
SSID	Up to 32 characters	proxim
Channel	In 802.11a mode: Channel 36 (5.18 GHz), Channel 40 (5.20 GHz), Channel 44 (5.22 GHz), Channel 48 (5.24 GHz), Channel 52 (5.26 GHz), Channel 56 (5.28 GHz), Channel 60 (5.30 GHz), and Channel 64 (5.32 GHz). In 2X mode: Channel 42 (5.21 GHz), Channel 50 (5.25 GHz), and Channel 58 (5.29 GHz).	None selected
Disable RTS/CTS	On/Off	Off
RTS/CTS Threshold	1 to 1245	1245
Max Transmit Rate	Select maximum transmit rate from among 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps in 802.11a mode and from among 108 Mbps, 96 Mbps, 72 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, and 12 Mbps in 2X mode	Automatic (all rates in 802.11a mode)
Enable WEP for Encryption	Enabled, Disabled	Disabled
Enable WEP for Authentication	Enabled, Disabled	Disabled
Key Length	40 Bit, 128 Bit, 152 Bit	40 Bit
WEP Keys	Up to 4 Keys: 10 hexadecimal digits per key for 40 Bit, 26 hexadecimal digits per key for 128 Bit, 32 hexadecimal digits per key for 152 Bit	Blank
Default Key	One of the four configured WEP Keys	WEP Key 1

Appendix B

How to Reach Technical Support

If you are having a problem using Harmony 802.11a Access Point and cannot resolve it with the information in “Troubleshooting” on page 17, gather the following information and contact Proxim Technical Support:

- What kind of network are you using?
- What were you doing when the error occurred?
- What error message did you see?
- Can you reproduce the problem?

You can reach Proxim Technical Support by voice, fax, e-mail, or mail:

Tel: 800-477-6946 or 408-731-2640

Fax: 408-731-3676

Web: <http://www.proxim.com/>

E-mail: support@proxim.com

Mail Proxim, Inc.

Attn: Technical Support

510 DeGuigne Drive

Sunnyvale, CA 94085

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