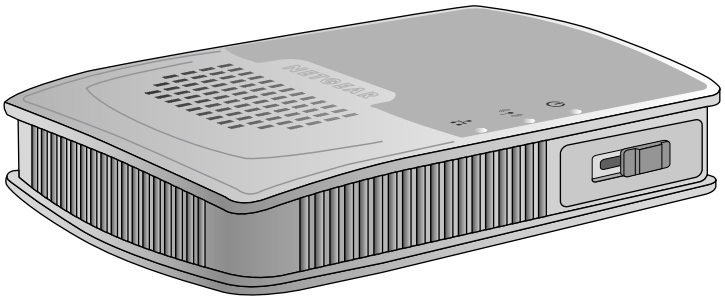
Reference Manual for the 3 in 1 AP of IP802SM



SerComm Corporation

202-10034-01
Version 1.4
May 2004

DECLARATION OF CON”FORMITY

Per FCC Part 15 Section 15.19(a) (3)

Responsible Party Name: SerComm Corporation

Address: 46480 Woodview Common Fremont, CA 94539
U.S.A.

Phone/Fax No: +1-510-870-1517 / +1-510-661-9249

Hereby declares that the product

Product Name: 3 in 1 AP

Model Number: IP802SM

© 2004 by SerComm Corp. All rights reserved.

Trademarks

SerComm is a trademark of SerComm Corp.

Microsoft, Windows, and Windows NT are registered trademarks of Microsoft Corporation.

Other brand and product names are registered trademarks or trademarks of their respective holders.

Statement of Conditions

In the interest of improving internal design, operational function, and/or reliability, SerComm reserves the right to make changes to the products described in this document without notice.

SerComm does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Certificate of the Manufacturer/Importer

It is hereby certified that the 3 in 1 AP IP802SM has been suppressed in accordance with the conditions set out in the BMPT-AmtsblVfg 243/1991 and Vfg 46/1992. The operation of some equipment (for example, test transmitters) in accordance with the regulations may, however, be subject to certain restrictions. Please refer to the notes in the operating instructions.

Federal Office for Telecommunications Approvals has been notified of the placing of this equipment on the market and has been granted the right to test the series for compliance with the regulations.

Voluntary Control Council for Interference (VCCI) Statement

This equipment is in the second category (information equipment to be used in a residential area or an adjacent area thereto) and conforms to the standards set by the Voluntary Control Council for Interference by Data Processing Equipment and Electronic Office Machines aimed at preventing radio interference in such residential areas.

When used near a radio or TV receiver, it may become the cause of radio interference.

Read instructions for correct handling.

Customer Support

Refer to the Support Information Card that shipped with your 3 in 1 AP IP802SM.

World Wide Web

SerComm maintains a World Wide Web home page that you can access at the universal resource locator (URL) *http://www.sercomm.com*. A direct connection to the Internet and a web browser such as Internet Explorer or Netscape are required.

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

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.

FCC Caution

1. FCC RF Radiation Exposure Statement: The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.
2. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. 3. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

EN 55 022 Declaration of Conformance

This is to certify that the 54 Mbps Wireless Travel Router WGR101 is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22).

Compliance with the applicable regulations is dependent upon the use of shielded cables. It is the responsibility of the user to procure the appropriate cables.

Countries of Operation and Conditions of Use in the European Community

This device is intended to be operated in all countries of the European Community. Requirements for indoor vs. outdoor operation, license requirements and allowed channels of operation apply in some countries as described below.

NOTE: The user must use the configuration utility provided with this product to ensure the channels of operation are in conformance with the spectrum usage rules for European Community countries as described below.

- This device requires that the user or installer properly enter the current country of operation in the Radio Configuration Window as described in the user guide, before operating this device.
- This device will automatically limit the allowable channels of operation applicable to each country. Incorrectly entering the country of operation may result in illegal operation and may cause harmful interference to other system. The user is obligated to ensure the device is operating according to the channel limitations, indoor/outdoor restrictions and license requirements for each European Community country as described in this document.
- This device may be operated indoors or outdoors in all countries of the European Community using the 2.4GHz band except where noted below.
- In Italy the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In France outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.

Europe - EU Declaration of Conformity

CE 0560 !

This device is a 2.4 GHz low power RF device intended for home and office use in EU and EFTA member states. In some EU / EFTA member states some restrictions may apply. Please contact local spectrum management authorities for further details before putting this device into operation.

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

EN300 328, EN301 489-17, EN60950

EN 55 022 Declaration of Conformance

This is to certify that the 54 Mbps Wireless Travel Router IP802SM is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22).

Compliance with the applicable regulations is dependent upon the use of shielded cables. It is the responsibility of the user to procure the appropriate cables.

Countries of Operation and Conditions of Use in the European Community

This device is intended to be operated in all countries of the European Community. Requirements for indoor vs. outdoor operation, license requirements and allowed channels of operation apply in some countries as described below.

NOTE: The user must use the configuration utility provided with this product to ensure the channels of operation are in conformance with the spectrum usage rules for European Community countries as described below.

- This device requires that the user or installer properly enter the current country of operation in the Radio Configuration Window as described in the user guide, before operating this device.
- This device will automatically limit the allowable channels of operation applicable to each country. Incorrectly entering the country of operation may result in illegal operation and may cause harmful interference to other system. The user is obligated to ensure the device is operating according to the channel limitations, indoor/outdoor restrictions and license requirements for each European Community country as described in this document.
- This device may be operated indoors or outdoors in all countries of the European Community using the 2.4GHz band except where noted below.
- In Italy the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In France outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.

Declaration of Conformity in Languages of the European Community

English	Hereby, NETGEAR, Inc. declares that this Radio LAN device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Finnish	Valmistaja NETGEAR, Inc.vakuuttaa täten että Radio LAN device tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart NETGEAR, Inc.dat het toestel Radio LAN device in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
	Bij deze NETGEAR, Inc.dat deze Radio LAN device voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
French	Par la présente NETGEAR, Inc.déclare que l'appareil Radio LAN device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
	Par la présente, NETGEAR, Inc.déclare que ce Radio LAN device est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables.
Swedish	Härmed intygar NETGEAR, Inc.att denna Radio LAN device står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Danish	Undertegnede NETGEAR, Inc.erklærer herved, at følgende udstyr Radio LAN device overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
German	Hiermit erklärt [INSERT COMPANY NAME HERE], dass sich dieser/diese/dieses Radio LAN device in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)
	Hiermit erklärt NETGEAR, Inc.die Übereinstimmung des Gerätes Radio LAN device mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien).
Italian	Con la presente NETGEAR, Inc.dichiara che questo Radio LAN device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Spanish	Por medio de la presente NETGEAR, Inc.declara que el Radio LAN device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Portuguese	NETGEAR, Inc.declara que este Radio LAN device está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Greek	*ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ* **NETGEAR, Inc.***ΔΗΛΩΝΕΙ ΟΤΙ* Radio LAN device *ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ*

Channel

The Wireless Channel sets the radio frequency used for communication.

- Access Points use a fixed Channel. You can select the Channel used. This allows you to choose a Channel which provides the least interference and best performance. In the USA and Canada, 11 channel are available. If using multiple Access Points, it is better if adjacent Access Points use different Channels to reduce interference.
- In "Infrastructure" mode, Wireless Stations normally scan all Channels, looking for a Access Point. If more than one Access Point can be used, the one with the strongest signal is used. (This can only happen within an ESS.)
- If using "Ad-hoc" mode (no Access Point), all Wireless stations should be set to use the same Channel. However, most Wireless stations will still scan all Channels to see if there is an existing "Ad-hoc" group they can join.

Model Name: 3 in 1 AP
Model No.: IP802SM

This device complies with part 15 of the FCC rule. 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.

Contents

Chapter 1
About This Manual

Audience, Scope, Conventions, and Formats 1-1
How to Use This Manual 1-2
How to Print this Manual 1-3

Chapter 2
Introduction

Key Features 2-1
802.11g Wireless Networking 2-2
Security 2-2
Autosensing Ethernet Connections with Auto Uplink 2-2
Extensive Protocol Support 2-3
Easy Installation and Management 2-3
Maintenance and Support 2-4
Package Contents 2-4
The Router's Switch 2-5
The Router's Front Panel 2-6
The Router's Rear Panel 2-7

Chapter 3
Connecting the Router to the Internet

Prepare to Install Your Wireless Travel Router 3-1
Setup Options Overview 3-2
Quick Installation: No Router Configuration or WEP Security 3-4
How to Log in to the Wireless Travel Router 3-5
Basic Wireless Security WEP Configuration 3-8
Basic Setup Troubleshooting Tips 3-9

Chapter 4
Wireless Configuration

Observe Performance, Placement, and Range Guidelines 4-1

Implement Appropriate Wireless Security 4-2
Understanding Wireless Settings 4-3
Information to Gather Before Changing Basic Wireless Settings 4-6
Default Factory Settings 4-7
How to Set Up and Test Basic Wireless Connectivity 4-7
How to Configure WEP 4-8
How to Restrict Wireless Access by MAC Address 4-10

Chapter 5
Management

Viewing Wireless Travel Router Status Information 5-1
Viewing a List of Attached Devices 5-5
Upgrading the Router Software 5-6
Configuration File Management 5-6
Restoring and Backing Up the Configuration 5-7
Erasing the Configuration 5-8
Changing the Administrator Password 5-8

Chapter 6
Network Configuration

Wireless Login to the Wireless Travel Router 6-1
Configuring Basic Settings Options 6-3
Configuring WAN Setup Options 6-4
Setting Up a Default DMZ Server 6-4
Respond to Ping on Internet WAN Port 6-5
Using WAN IP Setup Options 6-6
Using the Router as a DHCP server 6-7

Chapter 7
Troubleshooting

Basic Functioning 7-1
Power Light Not On 7-1
Lights Never Turn Off 7-2
LAN/ WAN Port Light Not On 7-2
Troubleshooting the Web Configuration Interface 7-3
Troubleshooting a TCP/IP Network Using a Ping Utility 7-4
Testing the LAN Path to Your Router 7-4
Testing the Path from Your Computer to a Remote Device 7-5

Restoring the Default Configuration and Password 7-5

Appendix A
Technical Specifications

Appendix B
Network, Routing, Firewall, and Basics

Related Publications B-1
Basic Router Concepts B-1
What is a Router? B-1
Routing Information Protocol B-2
IP Addresses and the Internet B-2
Netmask B-4
Subnet Addressing B-4
Private IP Addresses B-7
Single IP Address Operation Using NAT B-7
MAC Addresses and Address Resolution Protocol B-8
Related Documents B-9
Domain Name Server B-9
IP Configuration by DHCP B-10
Internet Security and Firewalls B-10
What is a Firewall? B-10
Stateful Packet Inspection B-11
Denial of Service Attack B-11
Ethernet Cabling B-11
Category 5 Cable Quality B-12
Inside Twisted Pair Cables B-13
Uplink Switches, Crossover Cables, and MDI/MDIX Switching B-14

Appendix C
Preparing Your Network

Preparing Your Computers for TCP/IP Networking C-1
Configuring Windows 95, 98, and Me for TCP/IP Networking C-2
Install or Verify Windows Networking Components C-2
Enabling DHCP to Automatically Configure TCP/IP Settings C-4
Selecting Windows' Internet Access Method C-6
Verifying TCP/IP Properties C-6
Configuring Windows NT4, 2000 or XP for IP Networking C-7