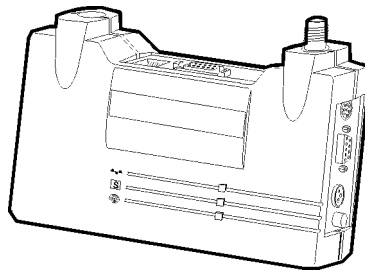**Aironet**

User's Guide
3000 series
Wireless Access Point for Token Ring

Products supported:
AP3000-T

DOC-710-003853 Rev. A0

Aironet Wireless Communications, Inc.

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Printed in USA

DOC-710-003853 Rev. A0

Manufacturers Federal Communication Commission Declaration of Conformity Statement

Models : AP3000-T
Manufacturer :

 Aironet Wireless Communications, Inc.
 367 Ghent Rd , Suite 300
 Fairlawn, OH 44333
 1-800-3-WIRELESS

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1) this device may cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

User Warning
The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Aironet could void the user's authority to operate this device.

Department of Communications - Canada
Canadian Compliance Statement

This Class A Digital apparatus meets all the requirements of the Canadian Interference - Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte les exigences du Reglement sur le material broilleur du Canada.

This device complies with RSS-210 of Industry of Canada. Operation is subject to the following two conditions: 1) this device may cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

European Telecommunication Standards Institute
Statement of Compliance
Information to User

This equipment has been tested and found to comply with the European Telecommunications Standard ETS 300.328. This standard covers Wide-band Data Transmission Systems referred in CEPT recommendation T/R 10.01.

This type accepted equipment is 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.

Declaration of Conformity

Aironet Model Number:
AP3000-T

Application of Council Directive: 89/336/EEC
Application of Council Directive: 72/23/EEC

CE Type Examination Certificate: HDTP/RDR/167/394122

Standards to which Conformity is Declared:
EN 55022 (A)
EN 55011 (A)
EN 50082-1
EN 60950

Manufacturer:
Aironet Wireless Communications, Inc.
367 Ghent Road, Suite 300
Fairlawn Ohio, 44333

*The undersigned hereby declares that the equipment specified
above conforms to the directives and standards cited herein.*

Director, Manufacturing Engineering
Aironet Wireless Communications, Inc.

Safety Information

The FCC with its action in General Docket 93-62, 1997, has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Aironet subscribes to the same safety standard for the use of its products. Proper operation of this radio according to the instructions in this manual will result in user exposure substantially below the FCC recommended limits.

■ Do not move the AP3000-T antennas while the unit is receiving or transmitting.

■ Do not hold any component containing a radio such that the antenna(s) is(are) very close to, or touching, exposed parts of the body, especially the face or eyes, while transmitting. Hold such a component 15 centimeters (6 inches) or more from your face.

■ Do not allow children to play with any radio equipment containing a transmitter.

■ Do not operate a portable transmitter near unshielded electrical blasting caps or in an explosive atmosphere unless it is a type especially qualified for such use.

■ Do not turn on the AP3000-T or attempt to transmit data unless the antennas are attached; if the antennas are not attached, the radio module may be damaged.

The AP3000-T is compliant with ANSI C95.1.91 (1991).

Table of Contents

The purpose of this User's Guide is to allow you to install and configure your Access Point so an end node or another Access Point (acting as a Repeater) will be able to register to it. For detailed installation and configuration procedures, see the AP3000-T Technical Reference Manual.

Before You Start

After unpacking the system, make sure the following items are present and in good condition:

- Wireless Access Point - 3000 Series

- 120VAC/60Hz or 90-264VAC/47-63Hz to 12-18VDC Power Pack

- Two standard 2dB Dipole Antennas

If any item is damaged or missing, contact your Reseller. Save all shipping and packing material to repack the unit in the future, should service be required.

Terminology

Root Unit - An Access Point which is located at the top of a RF Network Tree. The Root Unit is the starting point in the network and contains information in its Registration Table regarding all nodes on the network.

Radio Node - A PC, notebook computer, etc. containing an ISA, MCA card or PCMCIA Wireless LAN Adapter.

End Node - A Radio Node that is at the end of the RF Network Tree.

Understanding the Radio Network

Conceptually, Advanced Radio Local Area Network (ARLAN) is designed like an upside-down tree, with a Root Unit at the top and Radio nodes branching down and out from the Root as shown in the figure below.

The AP3000-T Wireless Access Point for Token Ring can serve as a Root Unit, providing wireless data communications between the Token Ring based network and other end nodes, or within the radio network itself.

In the example shown, the Root Unit does not register, but will accept Registration from those nodes within Radio Range.
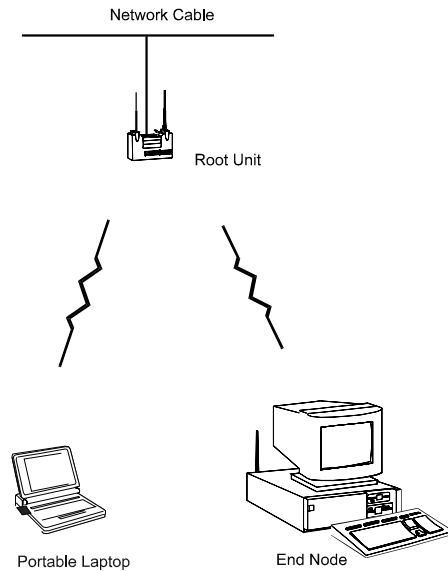
The End Nodes will register to the Root Unit which in turn will provide the end node with the best service based on signal strength and loading conditions.

The Root Unit now has registrations for all nodes on the Radio Network.

Network Cable

Root Unit

Portable Laptop   End Node

Information about optional long range antennas is available from the Aironet Antenna Guide or your Aironet Reseller.

Installing the Hardware

With the unit powered off, attach both the RP-TNC antennas to the antenna connectors.
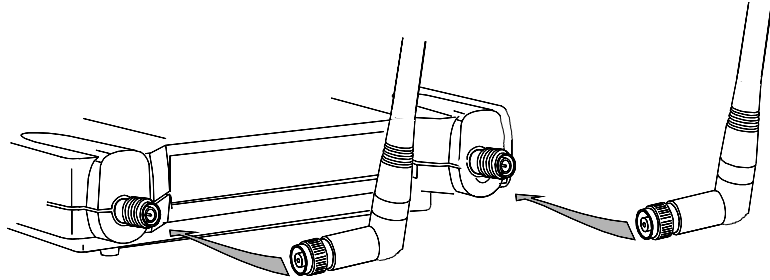

Do not over-tighten when connecting, finger-tight is sufficient. Once connected, make sure the antenna is positioned vertically to achieve an omni-directional pattern.

Attach the console port cable to the EIA-232-E port and the other end of the cable to the serial port on a terminal, or a PC running a terminal emulation program. The needed cable is 9 pin male to 9 pin female straight through.
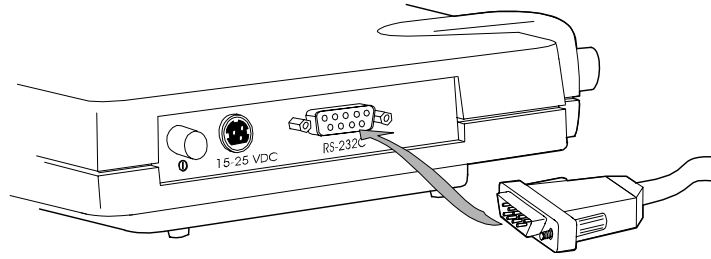
If using STP cabling: The AP3000-T supports STP (Shielded Twisted Pair) cabling. Once you have connected the Token Ring Cabling, you will have to go to the *Configuration-Tokenring-Speed* to set the ring speed, and *Configuration-Tokenring-Active-On* to allow the AP3000-T to enter the ring. Connect the other end of the cable to a Token Ring Multi-Station Access Unit (MAU).
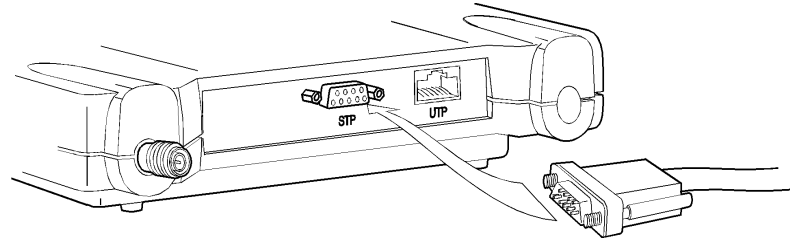
If using UTP cabling: The AP3000-T supports UTP (Unshielded Twisted Pair) cabling. Once you have connected the Token Ring Cabling, you will have to go to the *Configuration-Tokenring-Speed* to set the ring speed, and *Configuration-Tokenring-Active-On* to allow the AP3000-T to enter the ring. Connect the other end of the cable to a Token Ring Multi-Station Access Unit (MAU).
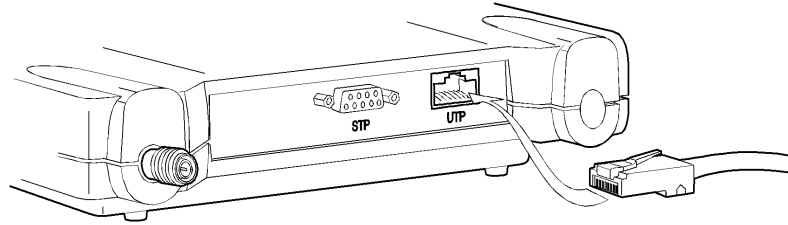
Insert the small plug on the end of the AC/DC Power Pack Cord into the 12-18VDC port, then plug the AC/DC power pack into an electrical outlet.
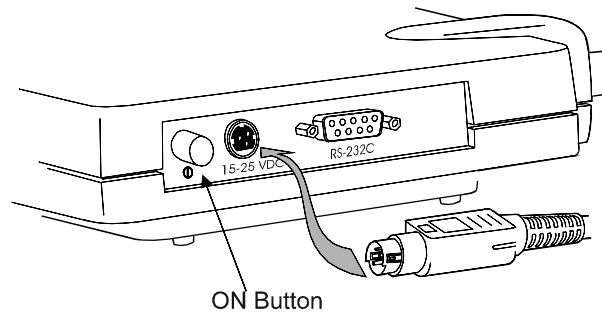
Power-on the AP3000-T by pushing the ON button.

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When power is initially applied to the Access Point, all three Indicators will flash yellow, red and then green, in sequence, to test the functionality of the Indicators. The Power-On Self Test follows. If any power-on test fails, the Status Indicator will go solid red and the unit will stop functioning.

Token Ring Indicator

Status Indicator

Radio Indicator
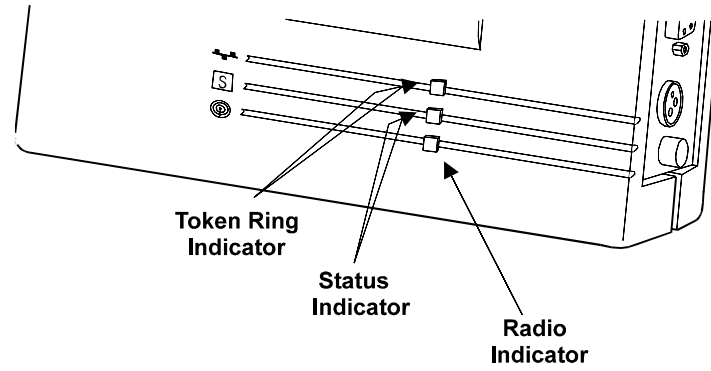
Configuring the Access Point

To configure the Access Point so that it will communicate with end nodes or repeaters, you must first use the Console Port to set the following parameters - ESSID, Pattern and Set, Root Mode. If you choose to set an IP address now, remote access via Telnet or HTML browser to the unit is possible.

The Console Port can be accessed directly by connecting the Access Point to an EIA-232-E terminal emulation program or by running a Telnet session from a remote on a network.

Console Port

To start the Console Port, set the EIA-232-E terminal (or PC running a terminal emulation program) to *9600 Baud, No-Parity, 8 data bits and 1 stop bit.*

Power-on the AP3000-T and the terminal and then type Yes or No when prompted for the ANSI or Teletype command.

The Console Port consists of a main menu and a series of sub-menus containing the configuration parameters from the Menus. You simply type the name of the parameter or the menu number and then press ENTER.

Telnet Session

Telnet sessions can be disabled under *Configuration Console Telnet Off.*

Before starting a Telnet session to a remote AP3000-T, you must first assign the unit an IP Address.

From the Main Menu, type *Configuration Ident Inaddr* and then type the applicable address.

ESS Identifier (ESSID)

The ESSID is a unique identifier that is attached to each packet sent out over the radio. You must make sure that the AP3000-T is set with the **same ESSID as the other nodes on the network with which you want to share RF communications.**.

You can set your own ESSID to any string up to 32 characters. *This same value must be used on all other devices on this system*.

At the Console Port, type *Configuration Radio ESSID* and then enter a string of characters up to 32 characters.

Selecting a Hopping Pattern

A hopping pattern is the sequence the radio hops from frequency to frequency. There are 78 patterns and each is assigned to one of three pattern sets. Radios using different patterns within a given set reduce the chances of interference between them. The pattern set must match all units on the RF network to obtain the best performance. Type *Set* and enter a number from 1 to 3.

Selecting a Frequency Hopping Sequence

The Access Point may be configured to automatically pick an unused hop pattern or may be manually configured to use a particular pattern. If automatic selection is chosen, the Access Point will pick a random pattern within its set and broadcast a query to see if another access point is using the same pattern. If another access point responds, this unit will

choose another pattern. Type *Pattern*, and enter a number from 1 to 26 or automatic.

Verifying Registration

Once you have configured your Access Point and node devices with the correct parameters, the Radio Indicator will flash *"green"* indicating RF data traffic. The Status Indicator will be *"solid green"* indicating that one or more nodes have registered to the unit

**Token Ring
Indicator**

**Status
Indicator**

**Radio
Indicator**

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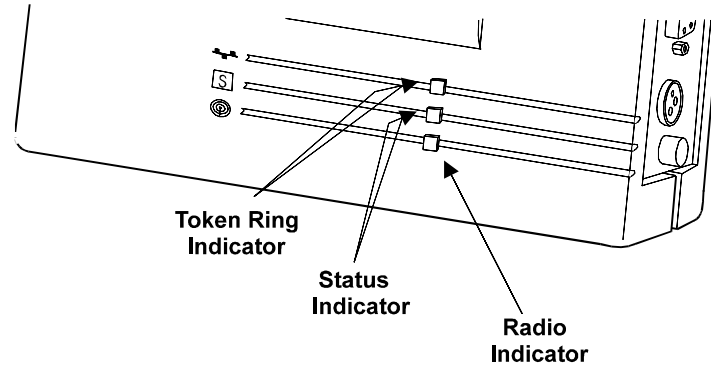
Where to Go from Here

Please ask your Aironet representative for an *AP3000-T Technical Reference Manual.*

In the *Technical Reference Manual,* you can learn more details about your Aironet unit and ARLAN software. Use the instructions in this reference to view statistics and perform system diagnostics.

Technical Support

Shipping Address

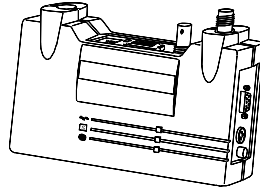Aironet Wireless Communications, Inc.
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Fairlawn, Ohio 44333

Communications

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Fax - (330) 664-7990
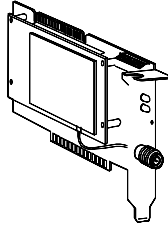e-mail - techsupp@aironet.com

Web Site

http://www.aironet.com

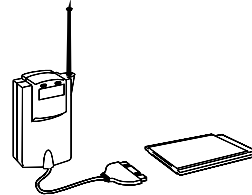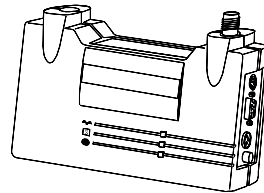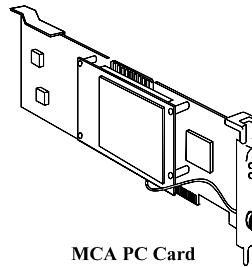# Other AIRONET Products

Ethernet Access Point
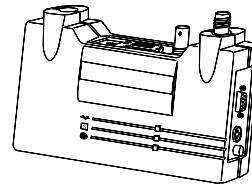
Ethernet Bridge

ISA PC Card

PCMCIA Adapter

Token Ring Access Point

MCA PC Card

Aironet

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