AirEZY2405-SWG™

Multi-Channel wireless Ethernet LAN

by
OTC Telecom, Inc.

user's manual

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Limited Warranty, Disclaimer, Limitation of Liability

For a period of one (1) year from the date of purchase by the retail customer, OTC Telecom Inc., warrants the AirEZY2405-SWG wireless LAN against defects in materials and workmanship. OTC Telecom will not honor this warranty if there has been any attempt to tamper with or remove the unit's chassis.

This warranty does not cover and OTC Telecom will not be liable for any damage or failure caused by misuse, abuse, acts of God, accidents, or other causes beyond OTC Telecom's control, or claim by other than the original purchaser.

If, after inspection, OTC Telecom determines there is a defect, OTC Telecom will repair or replace the AirEZY2405-SWG unit at no cost to you. To return defective merchandise to OTC Telecom please call OTC Telecom Customer Service at (408) 245-6888 to obtain a Return Merchandise Authorization (RMA) Number.

In no event shall OTC Telecom, Incorporated be responsible or liable for any damages arising:

- From the use of the product
- From the loss of use, revenue or profit of the product; or
- As a result of any event, circumstance, action, or abuse beyond the control of OTC Telecom, Incorporated.;

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.

Warranty Return Policy

If you have a problem with your AirEZY2405-SWG product, please call OTC Telecom Technical Support at (408) 245-6888. OTC Telecom Technical Support will assist with resolving any technical difficulties you may have with your OTC Telecom product.

After calling OTC Telecom Technical Support, if your product is found to be defective, you may return the product to OTC Telecom after obtaining an RMA number from OTC Telecom Customer Service. The product must me returned in its original packaging. The RMA number should be clearly marked on the outside of the box. OTC Telecom cannot be held responsible for any product returned without an RMA number, and no product will be accepted without an RMA number.
When calling OTC Telecom, please provide the following information to expedite service:

- Customer account number
- Invoice number
- Date of Sale
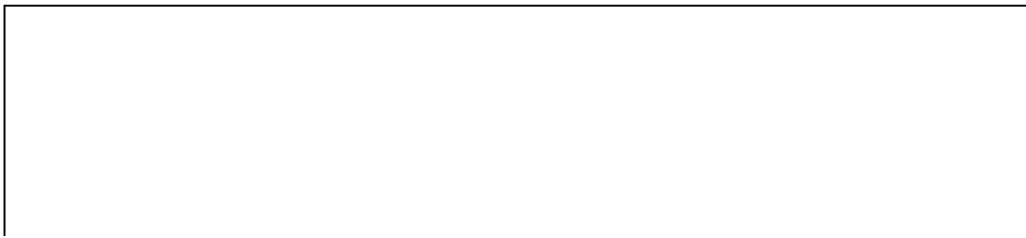- Model number of product
- Serial number of product

FCC Identification

MKZAZY2405SWG

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 when the equipment is operated in a residential installation. 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. 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.

DECLARATION OF CONFORMITY

We OTC Telecom Inc.,
602 Chartcot Ave.
San Jose, CA, 95131

Telephone: (408)245-6888

Declare under our sole responsibility that the product

AirEZY2405-SWG

Complies with part 15 of FCC Rules. 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

1.0 Introduction

Congratulations on your purchase of OTC Telecom's AirEZY2405-SWG. AirEZY2405-SWG is a "plug and play" wireless Ethernet LAN network device that is user friendly while providing wireless connectivity and high performance.

AirEZY2405-SWG offers the user easy installation and use. Simply connect AirEZY2405-SWG directly to the Ethernet bus or network interface card (NIC) through the RJ-45 connectors. Your AirEZY2405-SWG wireless LAN device will appear as a standard "wired" node to the network operating system.

Another built in feature with your AirEZY2405-SWG is platform independence. AirEZY supports all major network operating systems without the need of installing complex and time consuming software drivers.

1.1 Specifications

Frequency: 2.400-2483.5 MHz
Modulation: Spread Spectrum QPSK
Data Rate: 2.0 Mbps
Channel Number: 5 Channels*
Channel #1 2422.0 MHz
   #2 2432.0 MHz
   #3 2442.5 MHz
   #4 2452.0 MHz
   #5 2462.0 MHz

*Channels are pre-set by the manufacturer.

2.0 System Requirements

To begin using your AirEZY2405-SWG wireless LAN, your system will need to meet the following requirements for your file server and your client computer nodes:

» **Server:** *Hardware*--486 or Pentium PC, Apple Macintosh & PowerPC, UNIX Host (SUN, DEC,...), IBM AS-400, and IBM Mainframe with an Ethernet Interface Adapter.

» **Hub / Router:** *Hardware*--3Com, Cisco, Ascend, BayNetworks, etc....

      NOS/Protocol--Novell NetWare, AppleTalk, LAN Manager, Windows 95, Windows NT Server, TCP/IP, and SNA

» **Client:** *Hardware*--IBM PC/AT or compatible, Apple Macintosh & PowerPC, or any workstation with an Ethernet Interface Adapter.

    Driver/Protocol--ODI, NDIS, NETBIOS, AppleTalk, and Packet drivers.

» **Peer to Peer:** *Hardware*--486 or Pentium based desktop or laptop PC, Apple PowerBook, with an Ethernet Interface Adapter. {Laptop computers requires the user to have a Type II PC card (PCMCIA) LAN connection.} ***Must have Peer to Peer software such as (Windows 95, Novell Personal NetWare, AppleTalk, or any peer to peer Network Operating System)***

» You will also need to run a minimum of two AirEZY2405-SWG units on your LAN.

3.0 Product Package

» AirEZY2405-SWG	1 unit	AirEZY2405-SWG wireless LAN
	1 each	AirEZY2405-SWG users manual
	1 each	5v DC power adapter
	1 cable	3 ft **White or Light Blue**TX/RX twisted pair cable

1 cable	7 ft **Dark Blue** Cross over cable for Hub connection
1 each	Plastic Retaining Plate
1 each	Adhesive Pad
1 each	Software Diagnostic Disk

4.0 AirEZY2405-SWG Placement

After removing AirEZY2405-SWG from the shipping box, be sure to lay out all the contents to ensure that all necessary components are accounted for before you begin the installation process. Refer to **Section 3.0** of this manual for a complete list of provided components. AirEZY2405-SWG is a spread spectrum direct sequence transceiver unit. In order to maximize AirEZY2405-SWG's full wireless LAN capabilities, the proper placement of your AirEZY2405-SWG unit is crucial to its overall performance.**(See Appendix A)** Place the AirEZY2405-SWG unit on top of your file server unit, desktop PC, or lap top PC. AirEZY2405-SWG will perform the best when it is placed at a higher location adjacent to your system. If possible, place the AirEZY2405-SWG unit in a location so that the antenna extends above the top of your file server or computer.

4.1 AirEZY2405-SWG Installation Overview

AirEZY2405-SWG is designed to be easy and quick to install. The AirEZY2405-SWG has built in *auto-detection features* that will auto-detect which application environment it is operating under, this feature facilitates quick and easy installation.
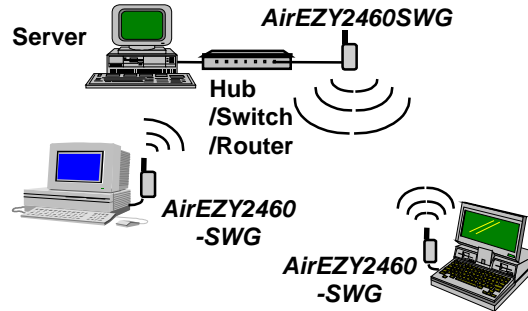
In order to use your AirEZY2405-SWG wireless LAN, you must have purchased at least **two** units. For optimum performance, AirEZY2405-SWG supports up to 6 units within a small work group configuration (including the unit placed at the file server). **(NOTE: If you intend to use the AirEZY2405-SWG in a network configuration that requires more than 6 wireless nodes, we highly recommend that you install the AirEZY2405-SWG-Access Point onto your wireless LAN segment. Please call your OTC Telecom, Inc. sales representative or your authorized reseller for additional access point information).**

The following section describes three (3) standard installation scenarios for your AirEZY2405-SWG wireless LAN installation:

CASE 1: Client / Server Installation *without* AirEZY2405-SWG-AP(Access Point)

In order to set up your wireless LAN, one AirEZY2405-SWG unit must be designated as an *AirEZY-Server*. This unit automatically configures to become the "access point" on your wireless LAN segment. The *AirEZY-Server* unit must be connected directly to a file server, hub , switch, or router on your LAN segment for the client/server configuration to work properly. The other corresponding units to be located at your remote PC, laptop, notebook, or printer device, will be configured as *AirEZY-Clients*. In a typical office environment, place all the AirEZY2405-SWG units within a 350- 500 feet radius of the *AirEZY-Server* unit. **When installing your wireless network, be sure to connect and power on the *AirEZY-Server* unit first!** This step is crucial in allowing the auto-detection features to be activated properly.

Diagram 1 Using AirEZY2405-SWG-SWG in Client/Server without AirEZY2405-SWG-AP

CASE 2: **Client / Server Installation** *using* **AirEZY2405-SWG-AP(Access Point)** *For additional information refer to AirEZY2405-SWG-AP installation manual (included with AirEZY2405-SWG - AP)*

- When using AirEZY2405-SWG with more than six(6) wireless nodes, the AirEZY2405-SWG-Access Point unit is highly recommended. Install the AirEZY2405-SWG-AP unit adjacent to your file server or directly onto your hub. Be sure to use the proper UTP cables when connecting the Access Point to your LAN segment. See Installation Manual for AirEZY2405-SWG-AP for diagrams

- When using the AirEZY2405-SWG Access Point, be sure to connect and power on the access point and the AirEZY2405-SWG RF transceiver unit **before** turning on any other AirEZY2405-SWG-SWG wireless client units on your remote stations.
  NOTE: The yellow LED on your AirEZY2405-SWG RF transceiver unit will exhibit a slow steady flash pattern.

- Once the Access Point and the RF transceiver units are powered on, you are ready to turn on the other remote stations. Once you power up the remote stations, the Yellow LED of the RF transceiver unit and the wireless remote nodes of AirEZY2405-SWG-SWG will exhibit a very rapid flash pattern.

Diagram 2 Using AirEZY2405-SWG-SWG in conjunction with AirEZY2405-SWG-AP (Access Point) in Client/Server Configuration tethered to your wired LAN
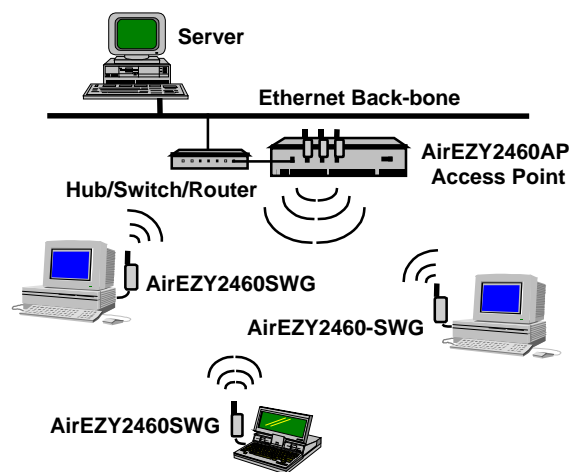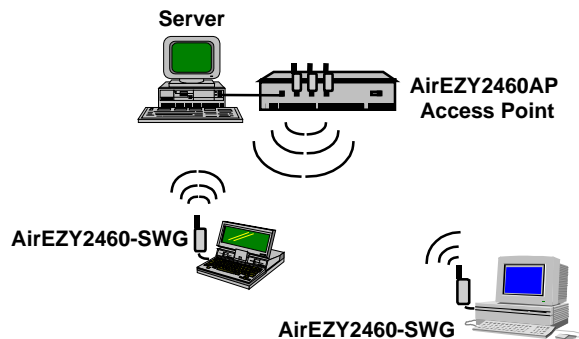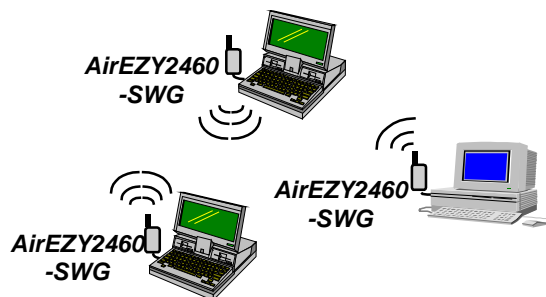
Diagram 3 Using AirEZY2405-SWG-SWG in conjunction with AirEZY2405-SWG-AP
(Access Point) in Client/Server Configuration in a stand-alone network

CASE 3: **Peer to Peer Installation**

If you are planning to set up a peer to peer work group, instead of placing one AirEZY2405-SWG unit
at the file server, you will need to set it up at your lap top / note book PC, workstation or desktop PC.
For peer to peer application, place one AirEZY2405-SWG unit at your peer desktop or peer laptop PC,
place other AirEZY units at the other designated peer stations. In addition, peer to peer wireless LAN
applications requires Windows 95, Windows NT, Novell Personal NetWare, AppleTalk, or any network
operating system that supports peer to peer connectivity to be properly installed on your system in
advance.

Diagram 4 Using AirEZY2405-SWG-SWG in a Peer to Peer Configuration

4.1.1 AirEZY2405-SWG: RJ-45 / 10Base T Installation instructions at your file server:

1) Attach the provided **gray** RJ-45 / 10 base T cable to the AirEZY2405-SWG unit. NOTE: This
connection port is similar to a standard telephone jack connection. **(Perform this procedure when
installing on the file server.)**

2) Attach the other end of the gray cable to the server. This will connect the AirEZY2405-SWG to the
Network Interface Card (NIC) in your server. **(Perform this procedure when installing on the file
server.)**

3) Another option available is to connect the AirEZY2405-SWG to an *open* or *free* port on your
10Base T hub, router, or switch with the **RED** cross over twisted pair cable.

4) At this stage of the installation process, check that the **AirEZY2405-SWG unit is properly
orientated**, be sure that the unit's antenna extends beyond the chassis of the file server or hub. Also,
ensure that all RJ-45 / 10Base T connections are in place on the network and on your AirEZY2405-
SWG unit.

5) At this point, insert the power adapter plug into the AirEZY2405-SWG unit. Find a convenient plug location adjacent to your file server and plug in the power adapter.

6) After being plugged in, the AirEZY2405-SWG unit will begin a series of self diagnostic tests. This series of tests will last for approximately a few brief seconds as it begins the *Auto Detection Mode.*
(Do not power on any other AirEZY units at this time!)

6) Once the power is on, the LEDs on the front panel will flash in the following pattern:

	LED color	**Pattern**	**Duration**	**Indication**
Step1	Yellow (Link)	series of short flashes	1 sec	Power on diagnostic / 10BaseT Detection / Auto Detection Mode
Step 2	yellow (Link)	series of 1 long and 1 short flash	continuous	Poor UTP cable connection -or-No UTP cable detected
Step 3	yellow (Link)	constant slow	continuous until other unit is linked	Security function invoked UTP cable connection detected and condition "OK"
	Red (TX)	on and off	short	
Step 4	yellow (link)	constant rapid flash	continuous	when client unit is "ON"

LED Display when network is properly configured:

LED color	**Pattern**	**Duration**	**Indication**
Yellow (Link)	constant rapid flash	continuous	Normal server/client activity (After client installation is completed!)
green (RX)	constant on	continuous	Receive/RX
red (TX)	variable	variable	Transmit/TX
red (On)	constant on	continuous	Power indicator

Note:………………(OK)

7) If the LED's are exhibiting the proper……characteristics, you have successfully installed the WL-2000………..(OK)

8) At this point, …………(OK)

9) Note: If the yellow LED on both units is exhibiting a constant slow flash pattern after being powered on. Please use Security and Diagnostics Program to make sure that both units are setting up with the same channel and RF security code. If channel setting and security code are correct, this signifies that the radio signal is weak and RF link…….(OK)

10) Note: If all four LEDs are "ON" when powered the unit, it indicates the program is not loaded into the system and reset the system until it works normally. If the problem persists, call for an RMA number and send the unit back for repair.

4.1.2 AirEZY2405-SWG: RJ-45 / 10Base T Installation instructions for your client sites:

This section of the manual will provide you with the instructions for installing the AirEZY2405-SWG *client* portion of your wireless LAN.

1) Attach the AirEZY2405-SWG to one RJ-45 cable just as you would install a standard Ethernet station node when using a standard twisted pair cable. NOTE: This connection port is similar to a standard telephone jack connection.

2) Attach one end of the cable to your desktop or portable computer and the other end of the cable to the AirEZY2405-SWG.
NOTE: Be sure to have a Ethernet network card or PC card(PCMCIA Ethernet card) installed on your desktop PC or portable PC.

3) At this stage of the installation process, **check the orientation of AirEZY2405-SWG unit * .** Ensure that all RJ-45 10 Base T connections are in place on the network and on your AirEZY2405-SWG unit.

4) Before plugging in the first AirEZY2405-SWG client unit at your desktop PC or workstation, be sure that your AirEZY2405-SWG unit at your file server is ready to be linked. (Refer to the table in either Section 4.1.1 for standard AirEZY2405-SWG operating conditions at the file server). At this point, insert the power adapter plug into the AirEZY2405-SWG unit. Find a convenient plug location adjacent to your desktop PC or portable PC.

- **See Appendix A**

5) After being plugged in, the AirEZY2405-SWG unit will begin a series of self diagnostic tests. This series of tests will last for a few brief seconds as it begins the auto detection mode.

6) Once the power is on, the LEDs on the front panel will flash in the following pattern:

LED color	Pattern	Duration	Indication
yellow	long flash	2 secs.	Power on diagnostic and auto-detection
yellow	series of 1 long and 1 short flash	continuous	Poor UTP cable connection -or-No UTP cable detected
	constant rapid flash	continuous	Normal client/peer activity
yellow	series of 1 long and 2 short flashes	continuous	Security check denied by server
green	constant on	continuous	Receive/RX
red	variable	variable	Transmit/TX
red	constant on	continuous	Power Indicator

6) Once the power is on, the LEDs on the front panel will flash in the following pattern:

LED color	Pattern	Duration	Indication

Step1	Yellow (Link)	series of short flashes	1 sec	Power on diagnostic / 10BaseT Detection
Step 2	yellow (Link)	series of 1 long and 2 short flash	continuous	Poor UTP cable connection -or-No UTP cable detected
Step 3	yellow (Link)	constant slow	continuous until other unit is linked	Security function invoked UTP cable connection detected and condition "OK"
	Red (TX)	on and off	short	
Step 4	yellow (link)	constant rapid flash	continuous	when remote unit is "ON"

LED Display when network is properly configured:

LED color	**Pattern**	**Duration**	**Indication**
Yellow (Link)	constant rapid	continuous	Normal activity (After Remote installation is completed!)
green (RX)	constant on	continuous	Receive/RX
red (TX)	variable	variable	Transmit/TX
red (On)	constant on	continuous	Power indicator

Note:………………(OK)

7) If the LED's are exhibiting the proper……characteristics, you have successfully installed the WL-2000………..(OK)

8) At this point, …………(OK)

9) Note: If the yellow LED on both units is exhibiting a constant slow flash pattern after being powered on. Please use Security and Diagnostics Program to make sure that both units are setting up with the same channel and RF security code. If channel setting and security code are correct, this signifies that the radio signal is weak and RF link…….(OK)

10) Note: If all four LEDs are "ON" when powered the unit, it indicates the program is not loaded into the system and reset the system until it works normally. If the problem persists, call for an RMA number and send the unit back for repair.

Appendix A

Orientation of AirEZY2405-SWG