QUICK START GUIDE FOR THE TRANZEO WIRELESS TR-AP-5AMP-N

REVISION 1.0
JANUARY 15, 2005

FCC Information

This equipment has been tested and found to comply with the limits for a Class A digital devices 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 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 communication.

Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

The user should not modify or change this equipment without written approval from Tranzeo Wireless. Modification could void authority to use this equipment.

For the safety reasons, people should not work in a situation which RF Exposure limits be exceeded. To prevent the situation happening, people who work with the antenna should be aware of the following rules

1. Install the antenna in a location where a distance of 140 cm from the antenna may be maintained.
2. While installing the antenna in the location, please do not turn on the power of wireless card.
3. While the device is working, please do not contact the antenna.
4. RF exposure: The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter"

Safety Notices

Safety Precautions:

YOU MUST READ AND UNDERSTAND THE FOLLOWING SAFETY INSTRUCTIONS BEFORE INSTALLING THE DEVICE:

- This antenna's grounding system must be installed according to Article 810-15, 810-20, 810-21 of the National Electric Code, ANSI/NFPA No. 70-1993. If you have any questions or doubts about your antenna grounding system, contact a local licensed electrician.
- Never attach the Grounding Wire while the device is powered.
- If the ground is to be attached to an existing electrical circuit, turn off the circuit before attaching the wire.
- Use the Tranzeo POE only with approved Tranzeo models.
- Never install Radio Equipment, surge suppressors, or lightning protection during a storm.

A BRIEF WORD ON LIGHTNING PROTECTION

The key to a Lightning Protection is providing a harmless route for lightning to reach ground. The system should not be designed to attract lightning, nor can it repel lightning. National, State and local codes are designed to protect life, limb and property, and must always be obeyed.

When in doubt, consult local and national electrical codes or contact an electrician or professional trained in the design of grounding systems.

Introduction

This next-generation wireless LAN device – the TRANZEO TR-AP-5amp-N, brings Ethernet-like performance to the wireless realm. Fully compliant with the IEEE802.11a standard, the TRANZEO TR-AP-5amp-N also provides powerful features such as the Internet-based configuration utility, and WEP and WPA security. Maximize network efficiency while minimizing your network investment and maintenance costs.

Hardware Installation
Product Kit

Before installation, make sure that you have the following items:

The TR-AP-5amp-N x 1
DC Power Adapter x 1
Power over Ethernet Adapter x 1
Ethernet Boot x 1
Mounting Bracket x 1
Ket Nuts (With Washer Attached) x 8
U-Bolt w/ 2 Nuts x 1
RJ-45 Patch Cable x 1
Spare Ethernet Boot Gasket x 1

Optional: Ethernet Boot Tightening Bracket x 1

If any of the above items is not included or damaged, please contact your local dealer for support.

Mechanical Description

LED panel of the Wireless LAN Smart Access Point:
The following table provides an overview of each LED activity:

Label	Color	Indicators
POWER	**RED**	**On:** Powered On **Off:** No Power
LAN	**Amber/Green***	**On:** Ethernet Link **Flashing :** Ethernet Traffic **Off:** No Ethernet Link
Radio	**Amber**	**On:** Radio Link **Flashing** Radio Activity **Off:** No Radio Link

***Only one of the two colors will be shown. Actual color will vary between units.**

Power Supply: ONLY use the power adapter supplied with the TR- AP-5a. Otherwise, the product may be damaged.

2-4 Hardware Installations

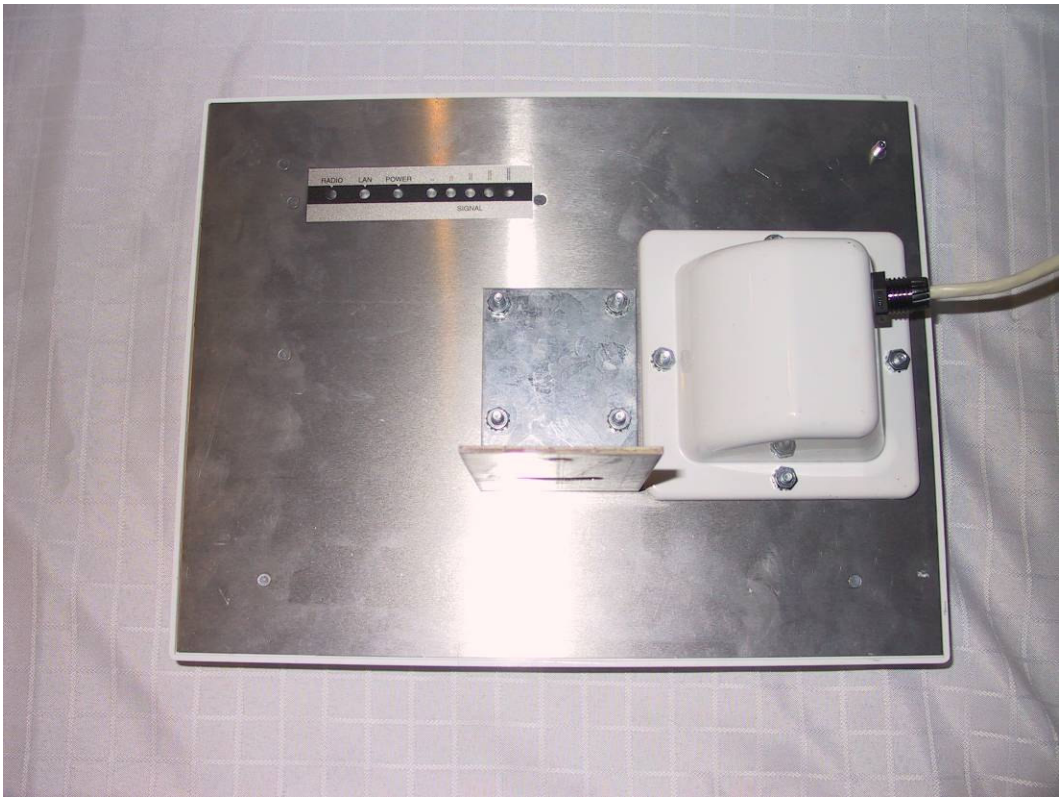
Take the following steps to set up your TR-AP-5amp-N.

Site Selection: Before installation, determine the TR-AP-5amp-N Units location. Proper placement of the unit is critical to ensure optimum radio range and performance. You should perform a Site Survey to choose a proper placement for your unit. Place your unit within the line of sight of the Access Point. Obstructions may impede performance of the unit.

Tools Required to Install

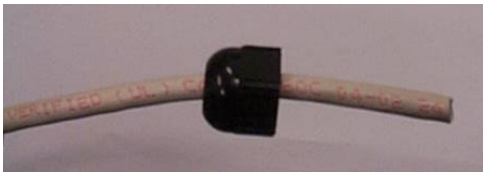
- One 3/8 wrench
- One 3/4 wrench
- One RJ-45 Crimper
- A suitable length of Cat 5 Cable to bring the signal from the unit to the Power over Ethernet Adaptor
- 2 RJ-45 Jacks

Before installing, you must determine if you will be installing the unit in a horizontal or vertical orientation. The TR-AP-5amp-N model can be mounted in either orientation. The Ethernet boot should always be placed so that the cable runs toward the ground for maximum environmental protection.



Connecting the Ethernet Cable

Step 1



Place the Ethernet Boot Cover over the end of your Cat 5 Cable. Attach the sticky side of the gasket to the underside of the Ethernet Boot.

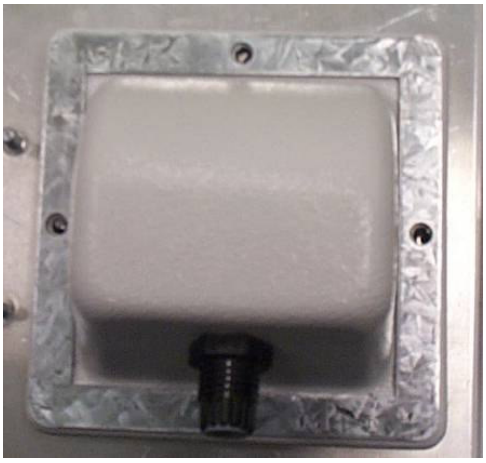
Step 2

Attach Ethernet Cable Lock on side of the Ethernet Boot. This is easiest to do before you attach the RJ-45 Jack.

Step 3

Tighten using a ¾" wrench or socket. Tighten until the Cable Lock touches the Boot as shown in Step 3**.**
USE HAND TOOLS ONLY. DO NOT OVERTIGHTEN as you may damage the environment seal.

Step 4



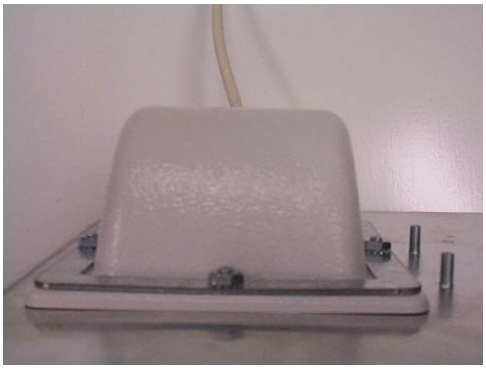
Attach optional tightening bracket on top of the Ethernet Boot. This is easiest to do before you attach the CAT 5 cable. The Gasket must be attached to the Boot so that it sits between the radio and the boot.

Step 5

Insert the Cat 5 Cable and tighten the Boot Cover. Be sure to pull enough cable through to reach the RJ-45 connector with an RJ-45 jack attached. Attach tightening bracket on top of the Ethernet Boot. This is easiest to do before you attach the CAT 5 cable. The Gasket must be attached to the Boot so that it sits between the radio and the boot.

Hand tighten only. DO NOT OVERTIGHTEN as you may damage the environment seal.

Step 6

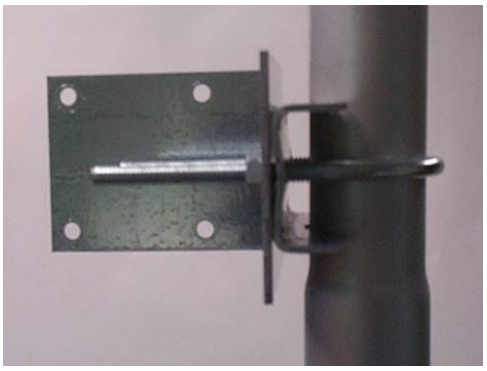


Place the Ethernet boot over the 4 Screw Posts. The screws should just barely clear the tightening bracket. Apply 4 Ket nuts to the screw posts and tighten until the gasket makes full contact with the Ethernet boot. Do not over tighten.

This is an example of over tightening. Over tightening connections like this may crack the boot and will compromise the gasket seal. Over tightening is not covered by warranty.

Attaching the Mounting Bracket

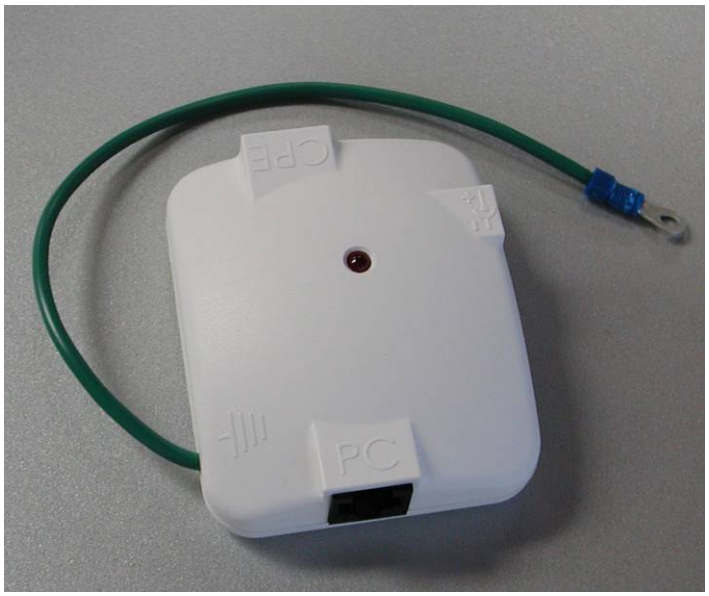
As shown below, the U-Bolt is designed to mount around a pole. Tighten bolts sufficiently to prevent any movement.



Down or up tilt can be adjusted by swinging the unit before tightening the U-Bolt.

Grounding the Antenna

Using a #6 Green grounding wire, connect the Grounding Lug on the radio to a proper ground. See APPENDIX A Lighting Information for more information.



Connect the Power Cable

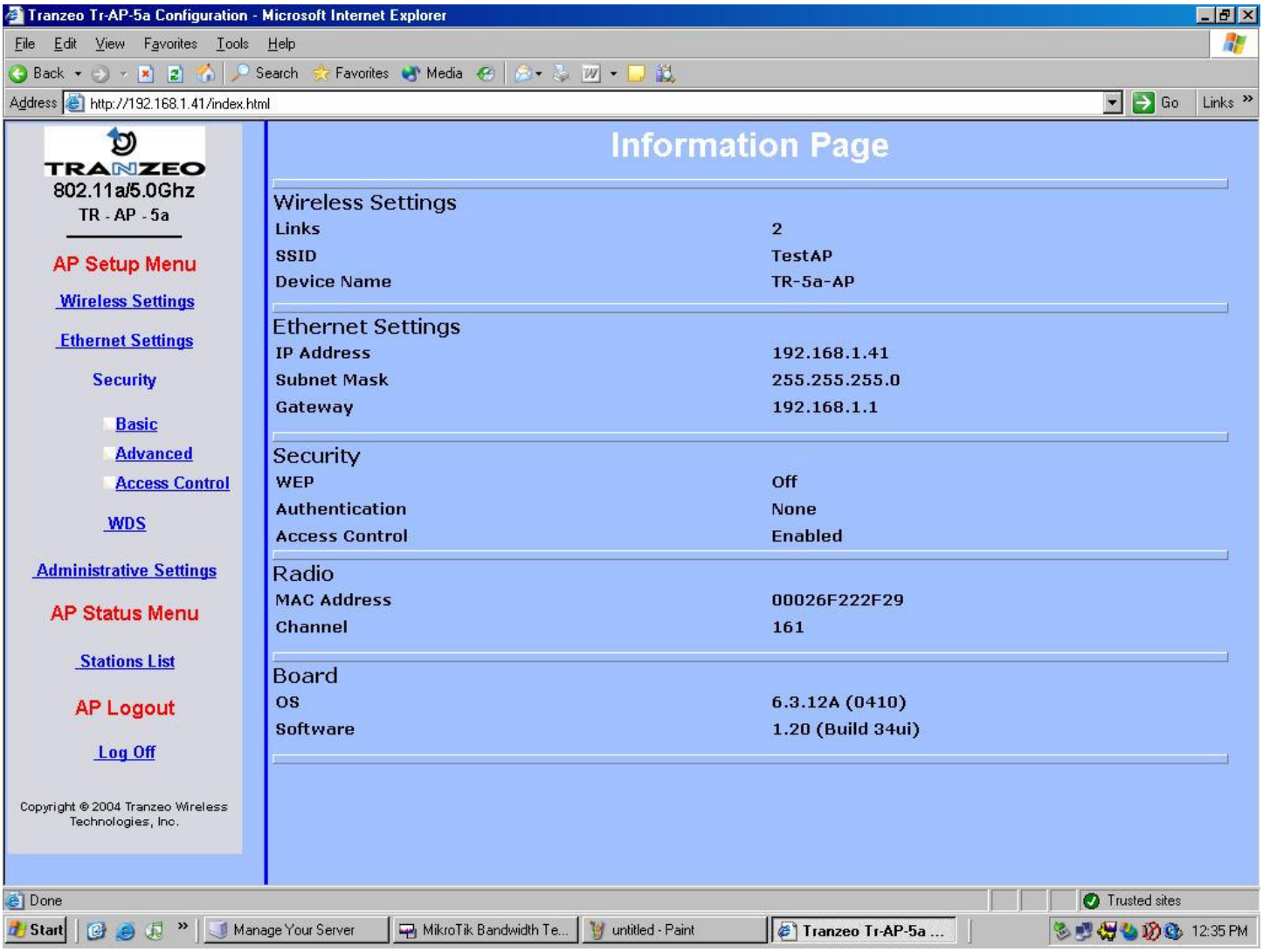
Connect the power adapter to the power socket on the Power over Ethernet Adaptor, and plug the other end of the power into an electrical outlet. Plug the RJ-45 Cable from the unit into the POE. The Station Adaptor will be powered on and the power indicator on the top panel will turn on.

NOTE: ONLY use the power adapter supplied with the Access Point. Otherwise, the product may be damaged.

This unit must be grounded. Connect the green Grounding cable to a known good earth ground, as outlined in the National Electrical Code.

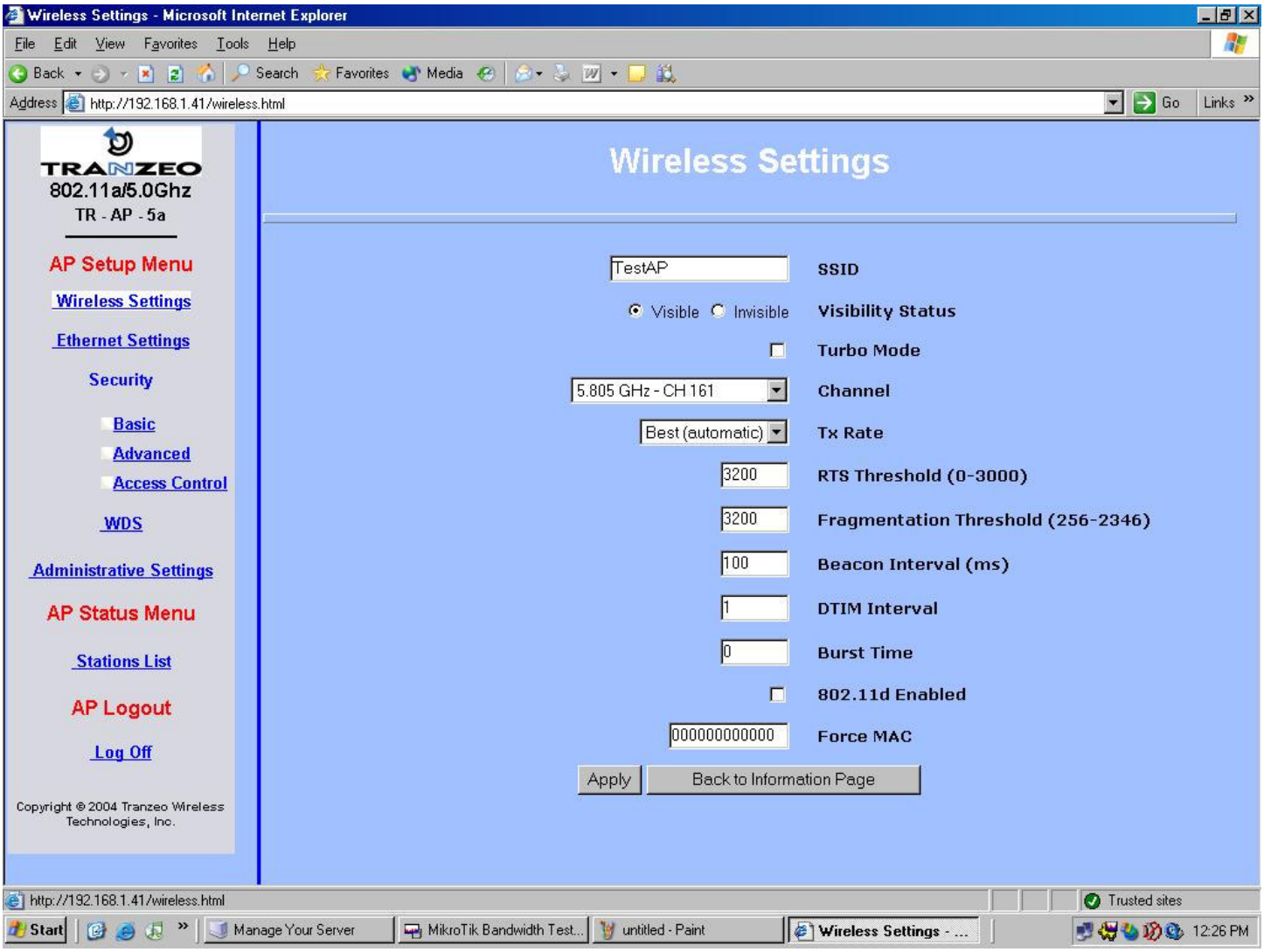
HTML Interface

NOTE: The default IP address is 192.168.1.100



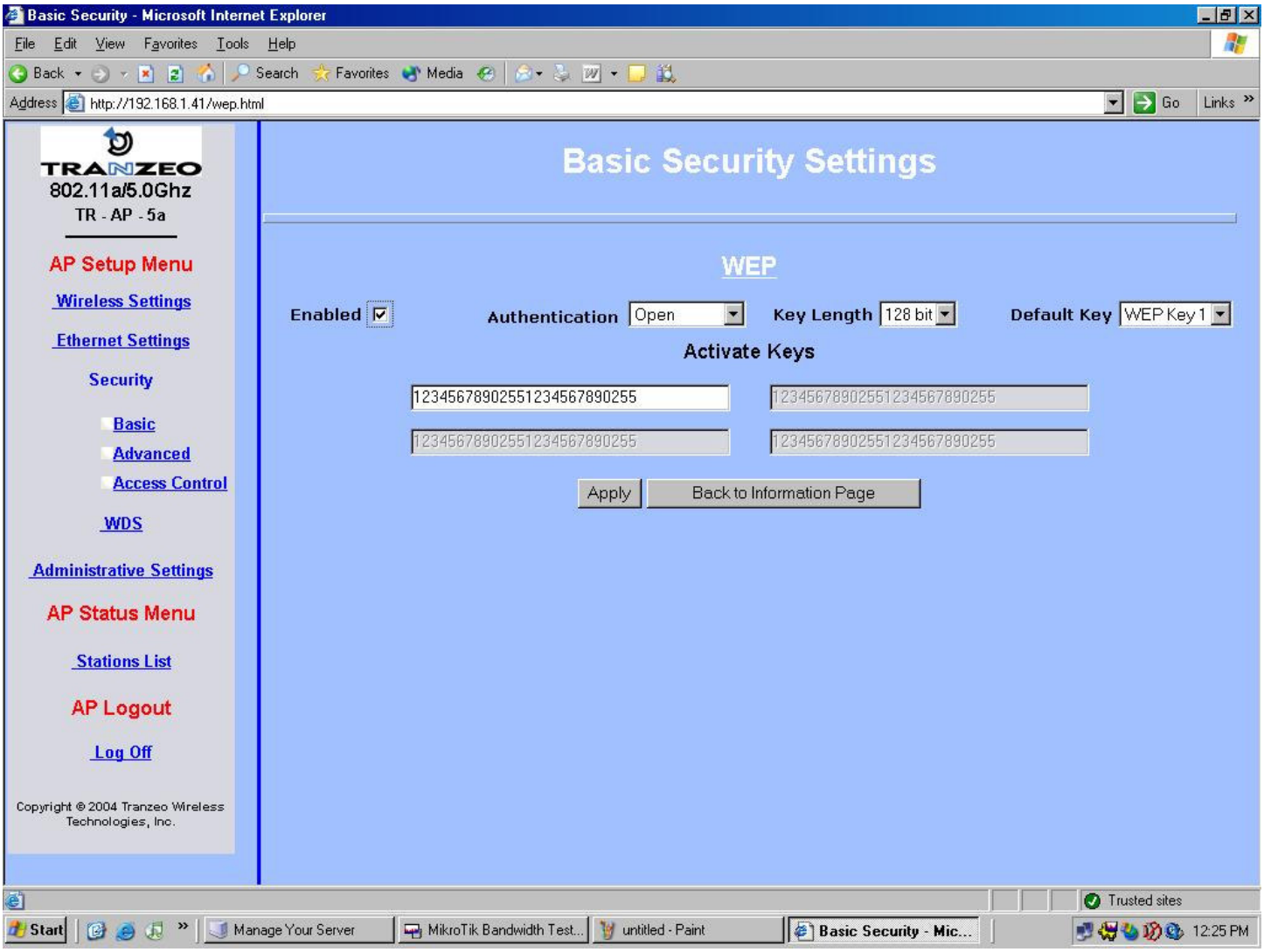
Select the option in the frame on the left you wish to configure.

Wireless Settings



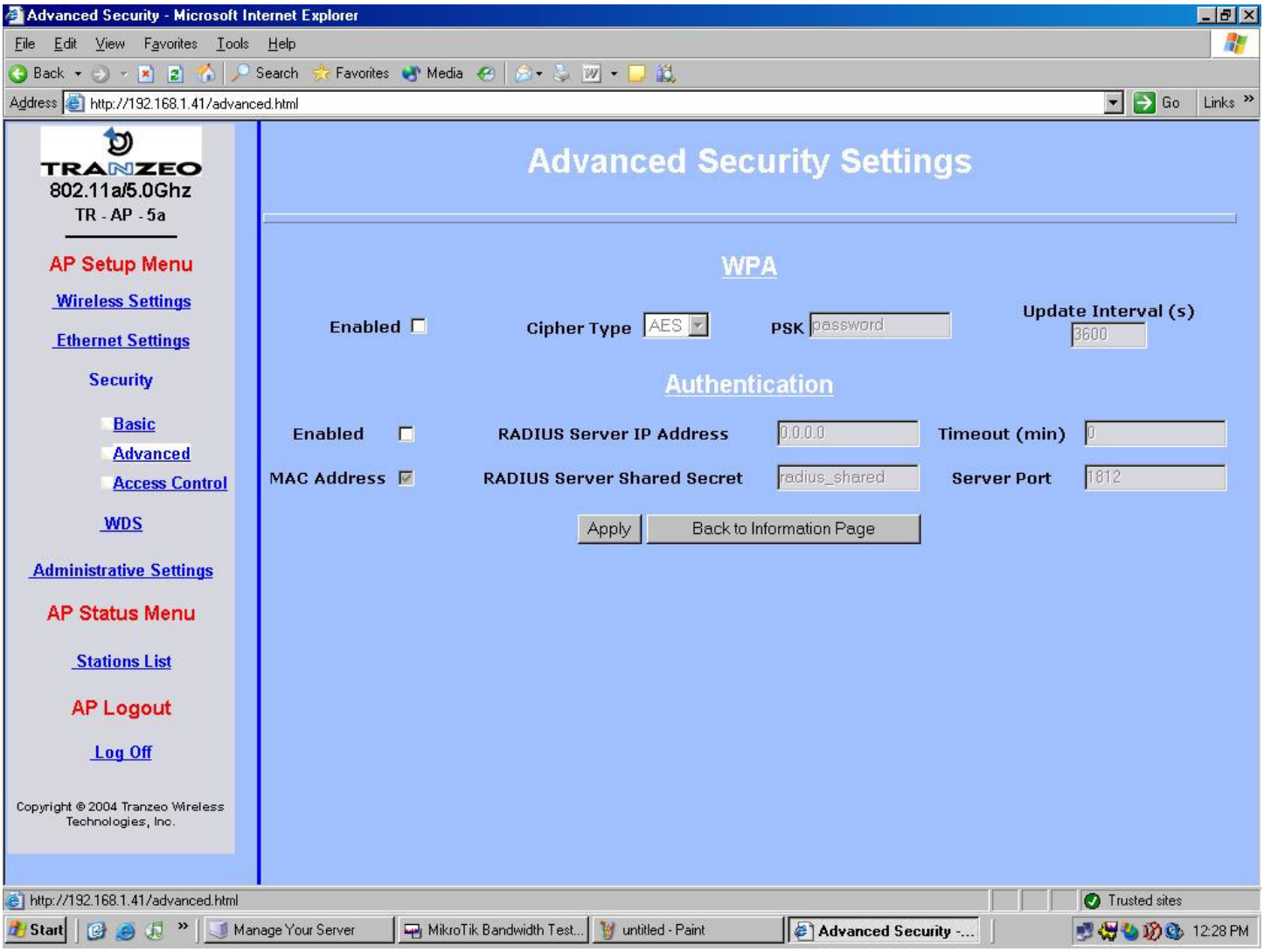
SSID	The SSID is a unique ID given to an Access Point. Wireless clients associating to the Access Point must have the same SSID. The SSID can have up to 32 characters. **HINT: Entering "none" the field allows the unit to see all AP's in the area.**
Turbo Mode	When using turbo mode, the other device must also support Turbo Mode. Also, the channel must be set manually on the AP.

Security Basic



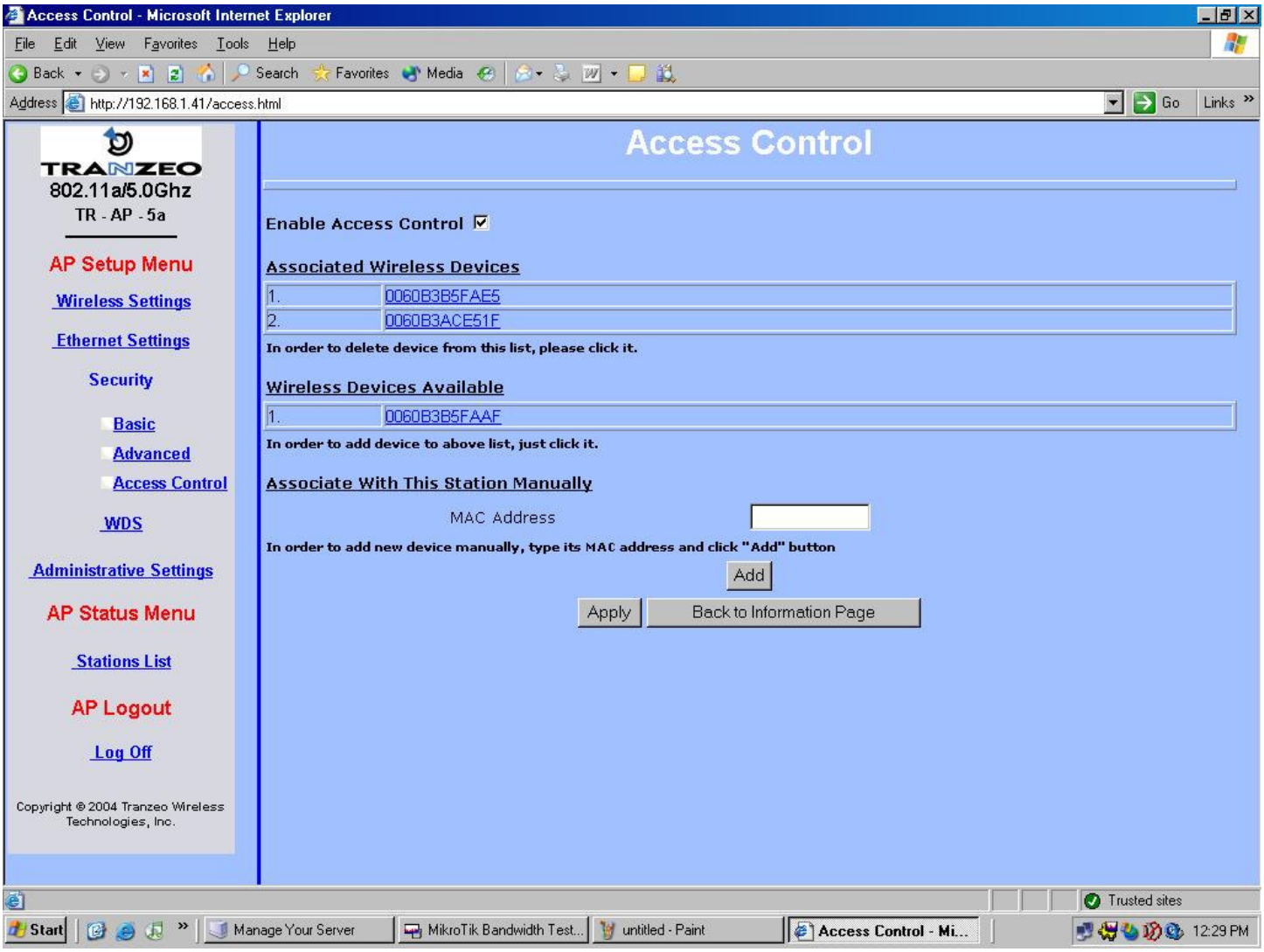
Enabled	Turn On WEP
Key Length	Level of Encryption. **NOTE:** 64 bit is called 40 bit on some systems
Shared Key Authentication	Turn on Shared Key Authentication
Keys	Enter your WEP keys. **NOTE:** Keys must be entered in HEX only.

Security Advanced



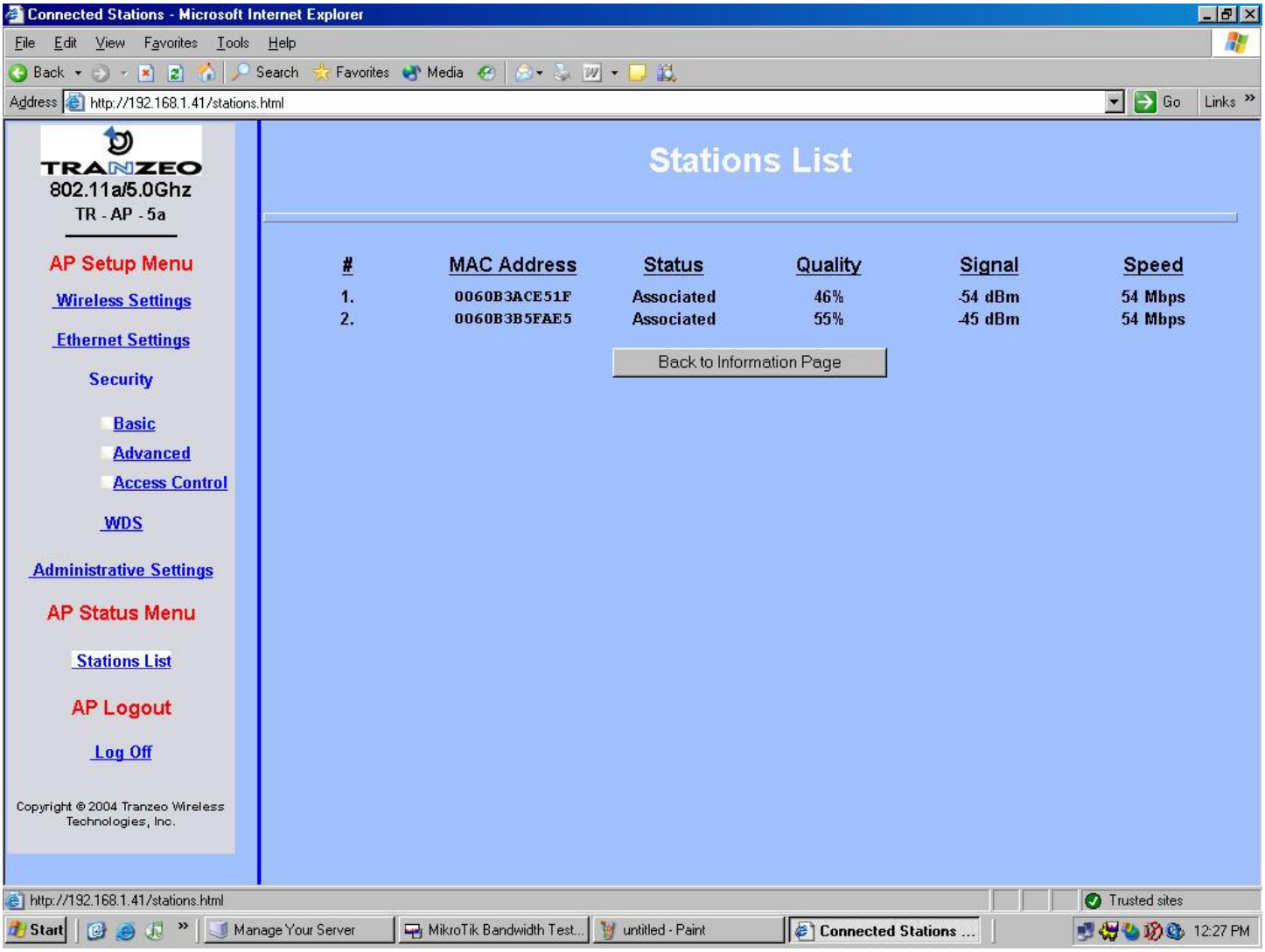
Enabled	Turn On WPA
Encryption Type	Level of Encryption. TKIP or AES
Enabled Authentication	802.1x for Radius Server

Access Control



Click on stations in Wireless Devices Available to enter station in Allowed Stations or Click in Associated Wireless Devices to delete it.

Station List



APPENDIX A: LIGHTING INFORMATION

What is a proper Ground?

This antenna must be grounded to a proper Earth Ground.

According to the The National Electrical Code Sections 810-15s and 810-21, the grounding conductor shall be connected to the NEAREST accessible locations of the following:

a) The building / structure grounding electrode
b) The grounded interior metal water piping system
c) the power service accessible means external to enclosure
d) the metallic power service raceway
e) the service equipment enclosure
f) The grounding electrode conductor

The important thing is to connect to ground at the nearest point.

Why is coiling the LMR or CAT5 bad?

The myth is that lighting follows the path of least resistance. It actually follows the path of least impedance. Coiling cables creates an air-wound transformer, which lowers the impedance. This means you are in fact making your radios a more appealing target for surges.

What standard does Tranzeo Wireless equipment meet?

This radio exceeds International Standard IEC 61000-4-5 when properly grounded. For a copy of the full testing report, see *Report Number TRL090904 - Tranzeo Surge Protection board* located on the Tranzeo website.

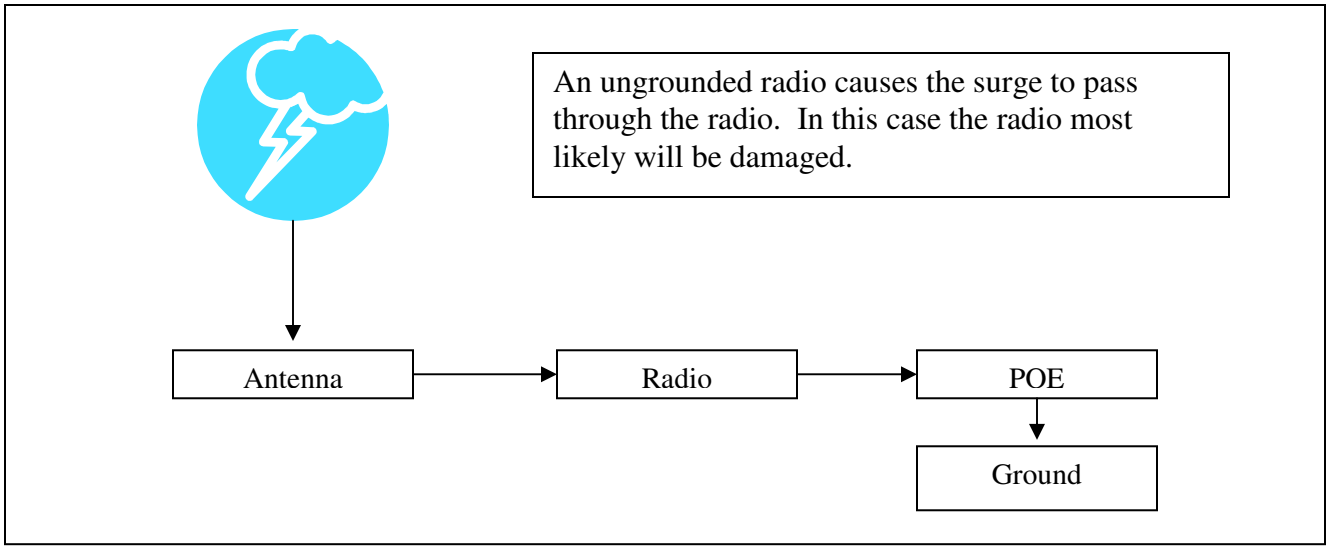
Is lightning damaged covered by the Warranty?

No. Lightning is not covered by the warranty. If you follow the instructions, you chances of lightning damage are greatly reduced, but nothing can protect a radio from a direct lightning strike.

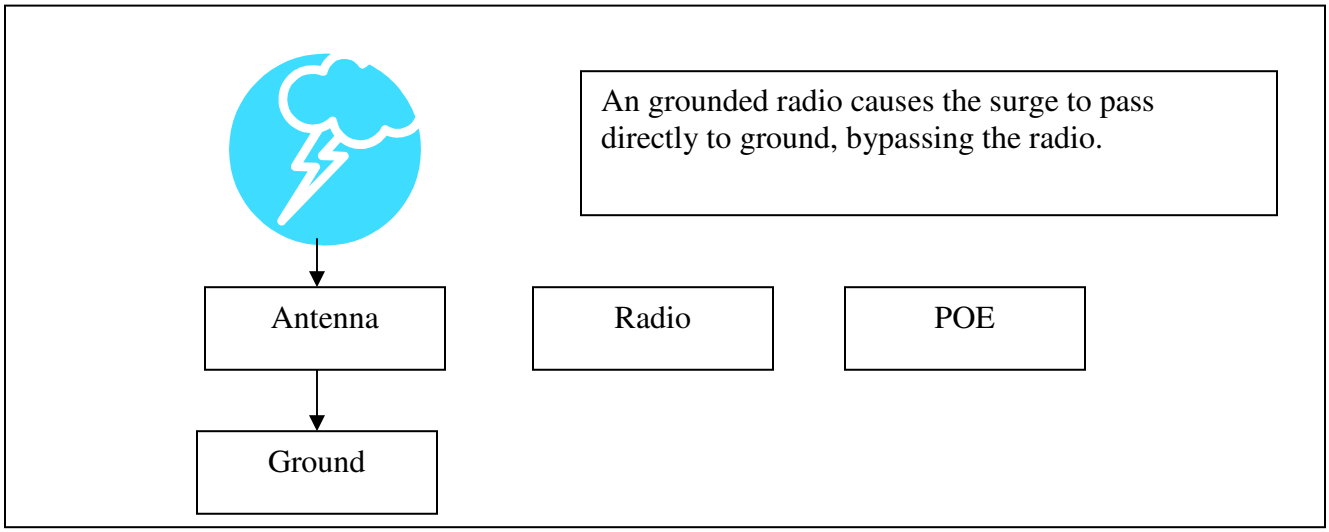
Where to Ground the device

This radio must be grounded at the Pole **AND** at the POE. This is because the radio is between the Exterior Antenna and the POE ground. See the examples below

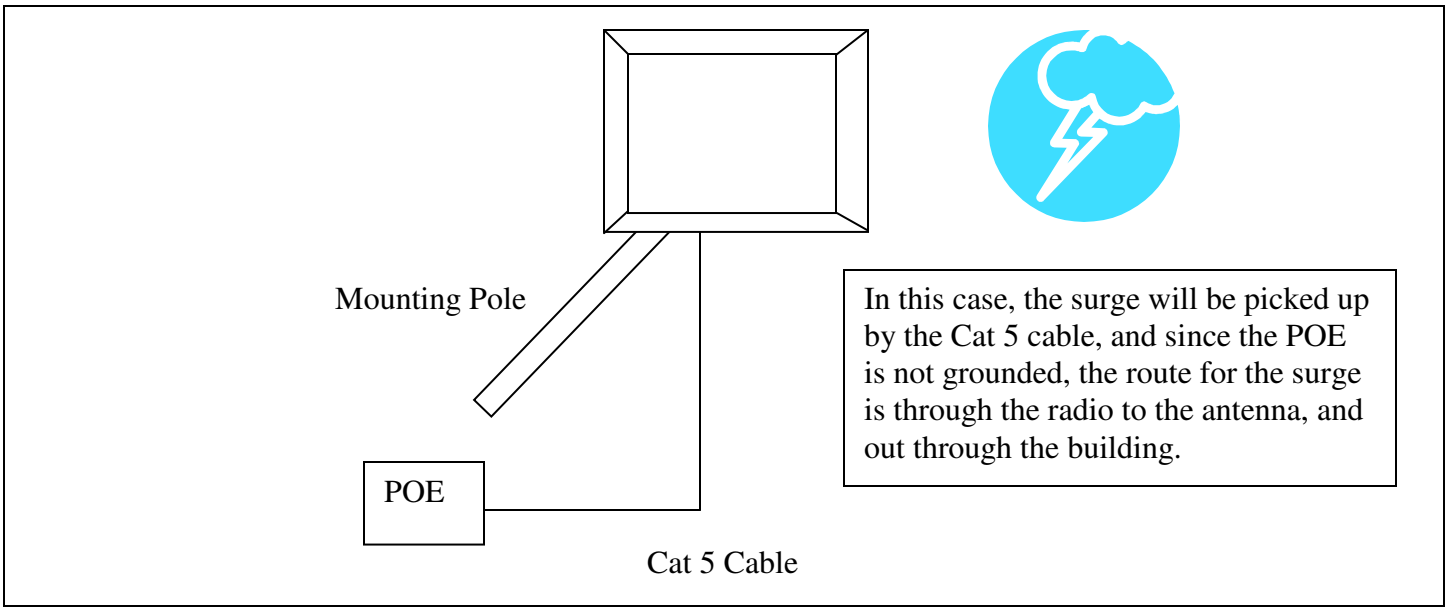
Ungrounded Radio



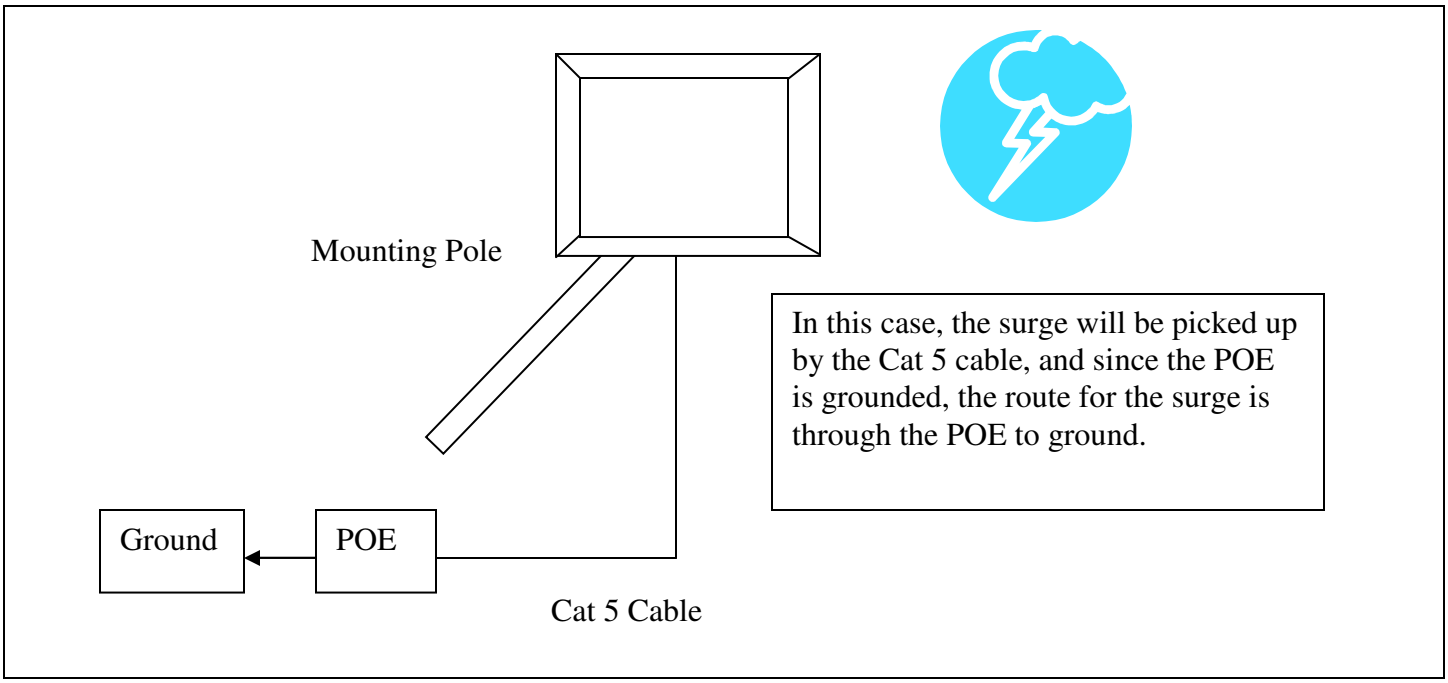
Grounded Radio



Ungrounded POE



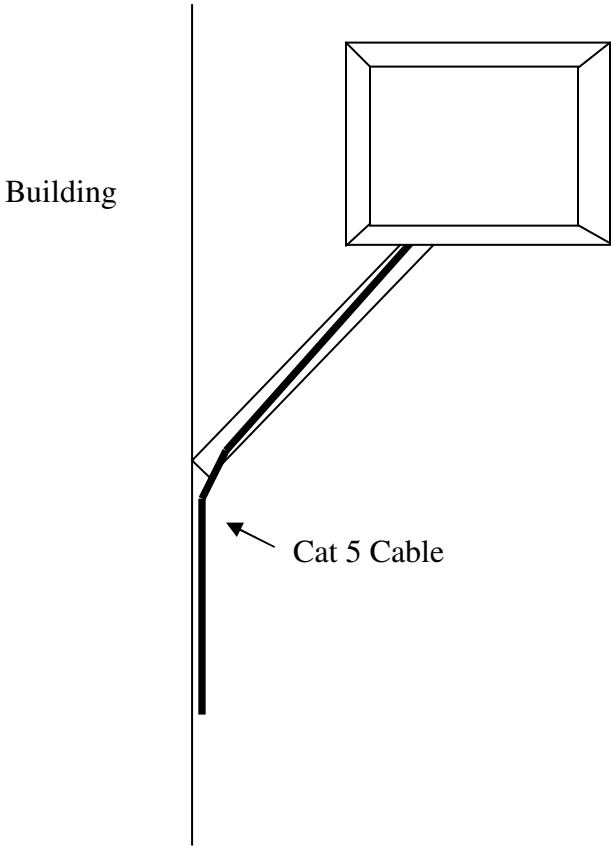
Grounded POE



20155 Stewart Crescent,
Maple Ridge, B.C. Canada V2X 0T6
Phone (604) 460-6002 Fax (604) 460-6005

Best Practices

1) Allow try to run the Cat5 and LMR inside of the mounting pole wherever possible. This helps to insulate the cable from any air surges.



2) Keep all runs as straight as possible. Never put a loop into the cables.
3) Test all grounds to ensure that you are using a proper Ground. If using a electrical socket for Ground, use a socket tester, such as Radio Shack 22-141
4) Buy a copy of the National Electrical Code Guide and follow it.
5) If you are in doubt about the grounding at the location, drive your own rod and bond it to the house ground. At least you will know that one Rod is correct in the system.