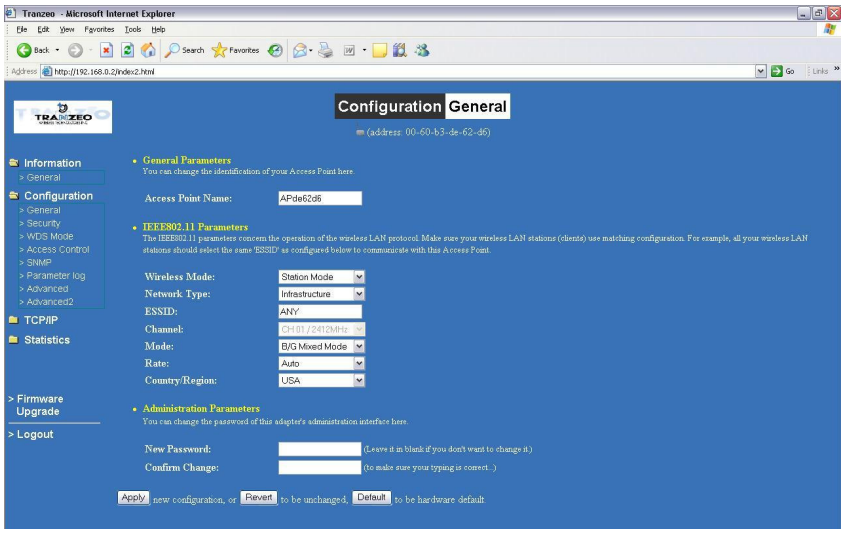
Configuration

In this section you would be able to configure general settings as well as advanced features for the TR-CPE90.

General

This window displays the general configuration of the device. It is divided in three sections: General Parameters, IEEE802.11 Parameters, and Administration Parameters, which are described below.



General Parameters

In this section you can enter or change the name of your access point.

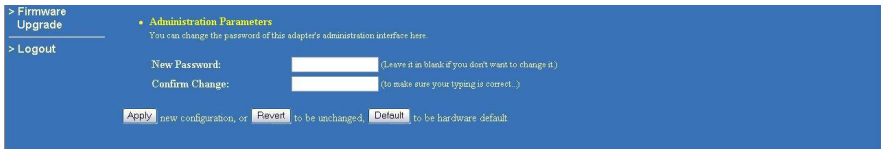
IEEE802.11 Parameters

These parameters refer to the operation of the wireless LAN protocol. Make sure your wireless LAN stations (clients) use matching configuration.

Wireless Mode:	Define if your device will operate as **Access Point** or **Station Mode** (CPE or infrastructure).
Network Type:	Select the network type: **Infrastructure** or **Ad hoc**. Note: Tranzeo Wireless does not support the use of ad hoc networking.
ESSID:	This is a unique ID given to an access point. Clients associating to the access point must have the same SSID. The SSID can have 32 characters maximum.
Channel:	Select the channel that the access point and clients will use.
Mode:	Select the mode, either **B/G Mixed Mode** or **B Only**.
Rate:	The rate at which the access point communicates with its clients. It is recommended to leave it as **Auto**.
Country/Region:	Select the country from where the device is operating. Setting an incorrect Country/Region may be considered a violation of the applicable law.

Administration Parameters

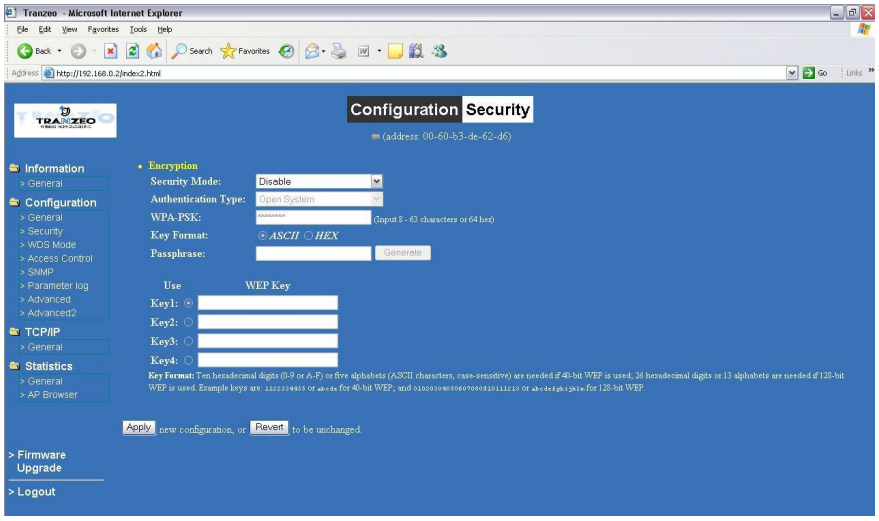
Use this section if you want to change your password.



New Password:	Enter your new password.
Confirm Change:	Re-type the new password.

Security

In this window you can configure the security settings for your device.

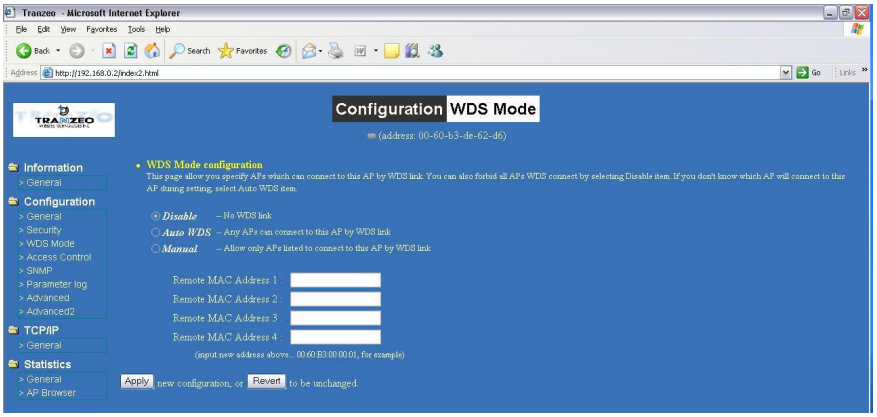


Security Mode:	Select the correct value for your systems: None, WEP 40, WEP 128, or WPA-PSK. Note: 40 bit is referred to as 64 bit in some systems.
Authentication Type:	Select your system to be open or shared.
WPA-PSK:	Enter the pre-shared key in this field.
Key Format:	Select whether you want to enter the key in **HEX** or **ASCII**.
Passphrase:	Enter your passphrase and click **Generate**. The WEP keys will be generated automatically.
WEP Keys	The four WEP keys are displayed in these fields. Click on the key you want to use.

WDS Mode

The Wireless Distribution System (WDS) is a modification to the 802.11 standards that allows access points to communicate directly with each other. WDS allows users to spread out coverage to a larger area without the need for a backhaul link. The tradeoff is that overall throughput is greatly affected for all users of the access points linked.

WDS is not recommended for use with large numbers of clients or when throughput needs to be maximized. In both cases, a dedicated PxP link should be used. However, in areas of low density, WDS can allow an ISP to extend coverage into an area at very low cost.

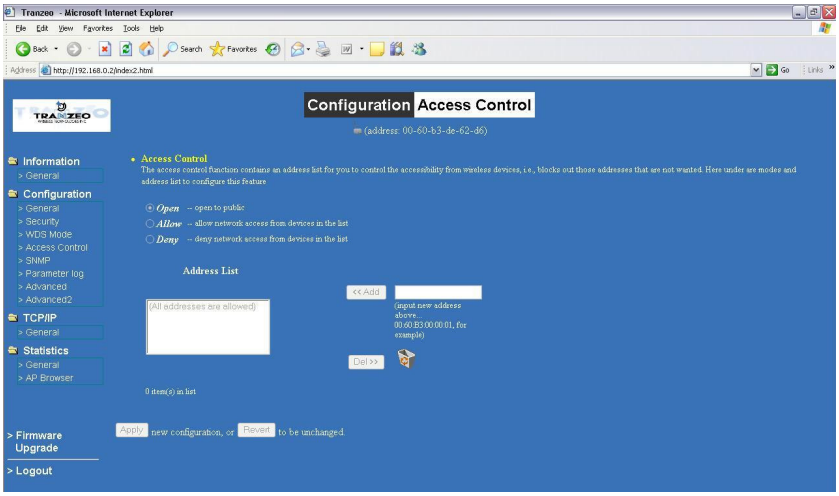


Disable:	Deactivates WDS connections.
Auto WDS:	Allows any access point to connect to your access point by WDS link. The Auto WDS option is recommended only when the TR-CPE90 is being used to cover indoor locations. The intended use is to allow an access point to be set up in an area to increase coverage on a temporary basis, such as in a hotel conference center.
Manual:	Allows only access points listed to connect to this access point by WDS link. You can enter new access points in the Mac Address list below. ISP operations should use the Manual WDS option for maximum security and to ensure adequate coverage and bandwidth.

Access Control (AP only)

This feature allows you to control the accessibility from wireless devices. It applies only to devices working as access points.

Note: If you are connecting via a radio link, before enabling access control ensure the address of the station you are connecting from is in the Address list, or you will be locked out of the radio.

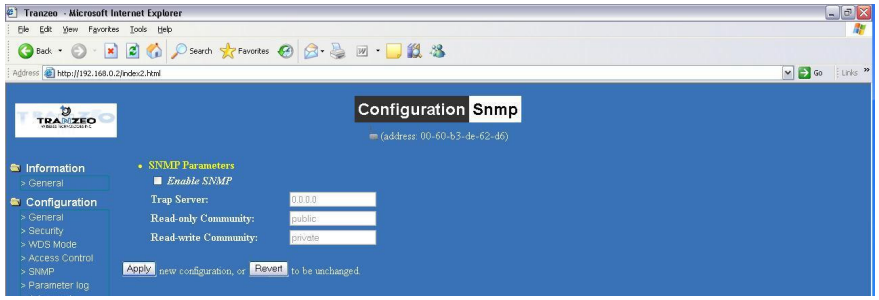


Open:	Allows access from any device.
Allow:	Allows access from devices in the Address list.
Deny:	Denies access from devices in the Address list.
Address List:	Contains currently allowed or denied addresses. To add an address to the list, enter it in the blank field and click **<<Add**. To delete an address form the list, select the entry and click **Del>>**.

SNMP

In this window you can enable SNMP parameters. SNMP on the TR-CPE90 uses MIB-II, 80211.mib and a custom MIB that can be downloaded from the Tranzeo website.

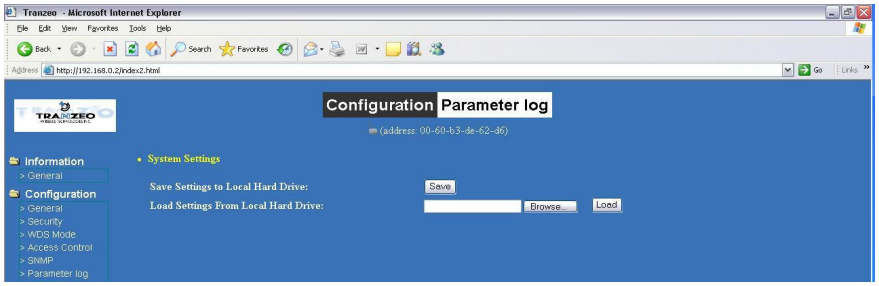
Note: Always change the read-write community string password when enabling SNMP. Otherwise, your radio would be vulnerable.



Enable SNMP:	To activate SNMP.
Trap Server:	
Read-only Community:	Enter the read-only community string.
Read-write Community:	Enter the read-write community string.

Parameter Log

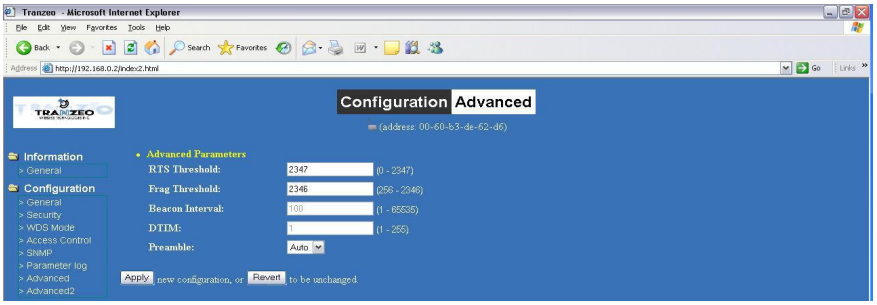
In this window you can back up and restore the configuration of the device.



Save Settings to Local Hard Drive:	To back up the current configuration.
Load Settings from Local Hard Drive:	To restore the last saved configuration.

Advanced

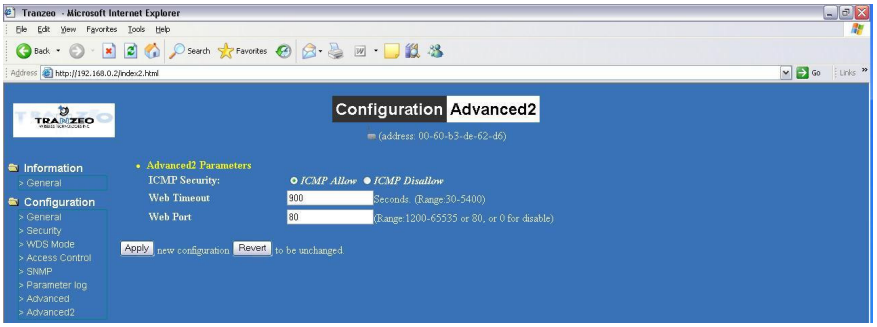
In this window you can set advanced parameters.



RTS Threshold:	Enter the RTS that works best in your location. Usually, the more clients you have, the lower the threshold value.
Frag Threshold:	Enter the fragmentation that works best in your location. The lower the fragmentation, the smaller the packets.
Beacon Interval:	This is the rate at which the access point will broadcast its beacons.
DTIM:	This is the Delivery Traffic Indication Message interval, which helps to keep marginal clients connected by sending wake up frames.
Preamble:	Set as **Auto** by default. **Long** uses long preamble only, **Auto** tries short preamble first, then long.

Advanced 2

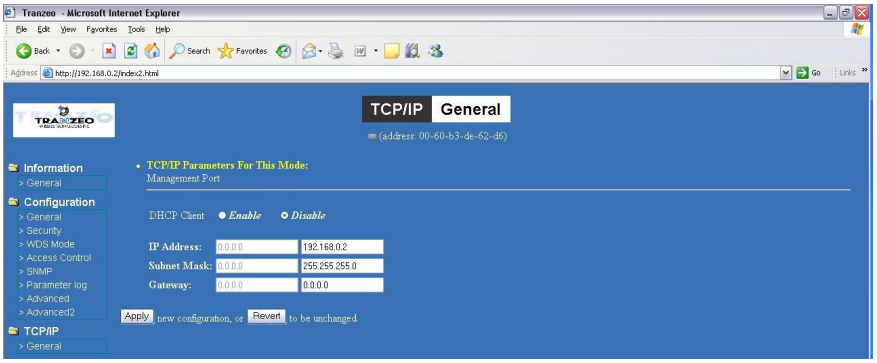
This window contains advanced configuration features.



ICMP Security:	Check to allow or disallow response to pings. Useful in some cases, but limits monitoring options.
Web Timeout:	Enter the maximum idle time for a web session.
Web Port:	Port on which the web server will respond. Note: The radio may become unmanageable if incorrect setting.

TCP/IP > General

Here you can configure the device to use a Static IP or DHCP.



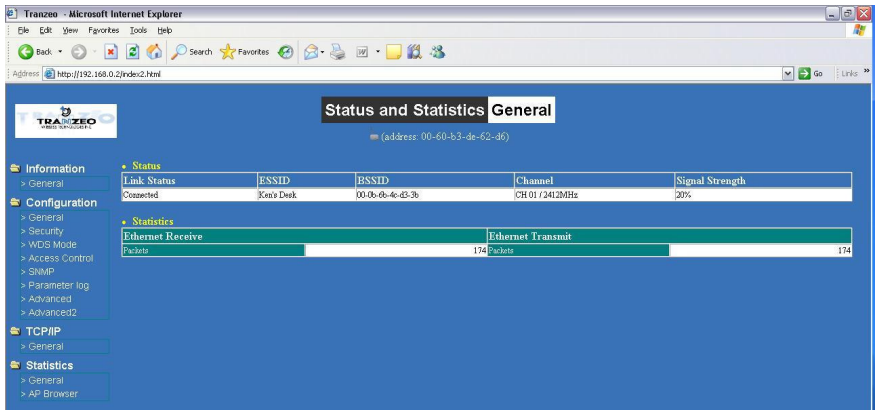
DHCP Client > Enable:	Check **Enable** to use DHCP connection. A DHCP server should be available for the device to be manageable. Enter the IP address, subnet mask and gateway in the left column.
DHCP Client > Disable:	Check **Disable** to use static IP connection. Enter the IP address, subnet mask and gateway in the right column.

Statistics

This section displays information about the status and performance of your device. Most options and information cannot be modified in this section.

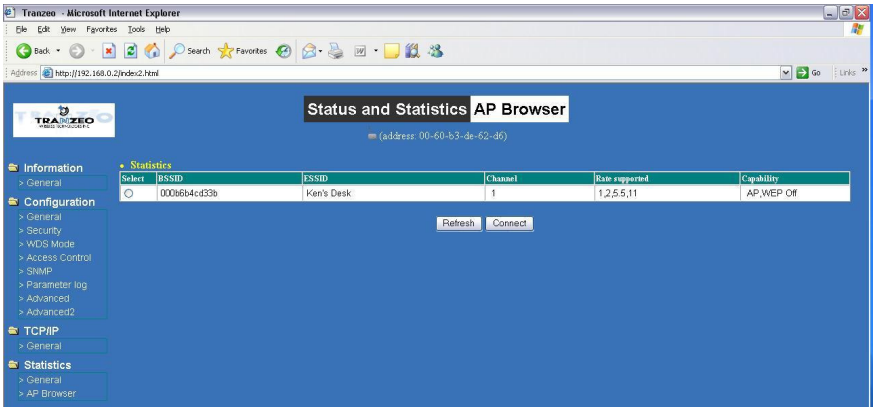
General

This window shows the status of the link, signal strength, and statistics in terms of number of packets transmitted and received.



AP Browser (CPE only)

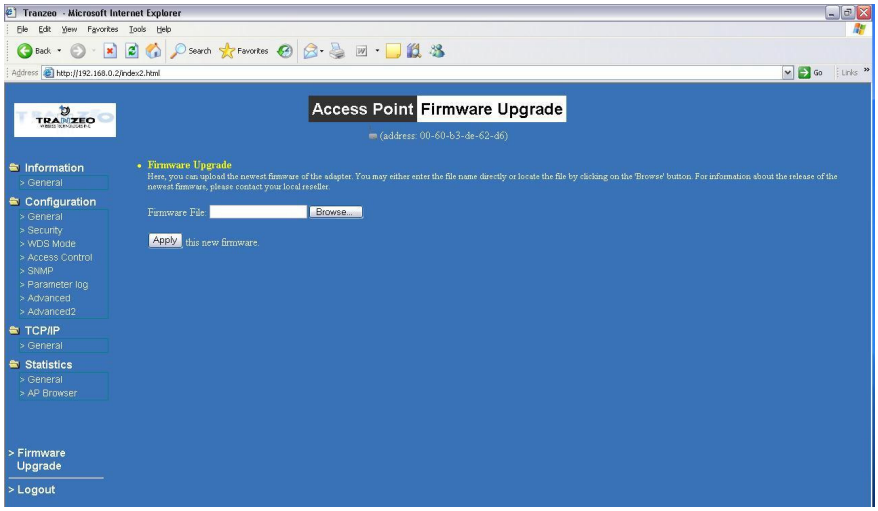
This window displays a list of the access points available and their performance. Here you can select the access point to which you want to be connected.



Connect:	Use this button to connect to the selected access point.
Refresh:	Use the **Refresh** button to get the latest statistics.

Firmware Upgrade

You can upgrade the TR-CPE90 firmware from this window. To get the latest firmware version, follow the following instructions.



1. Click the **Browse** button to locate the upgrade file.
2. Click **Apply**.
3. You may be prompted to reboot your computer.

Appendix A: Grounding and Lightning Protection Information

What is a proper ground?

This antenna must be grounded to a proper earth ground. According to the National Electrical Code Sections 810-15s and 810-21, the grounding conductor shall be connected to the nearest accessible locations of the following:

- The building or structure grounding electrode
- The grounded interior metal water piping system
- The power service accessible means external to enclosure
- The metallic power service raceway
- The service equipment enclosure
- The grounding electrode conductor

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 (www.tranzeo.com).

Is lightning damage covered by the warranty?

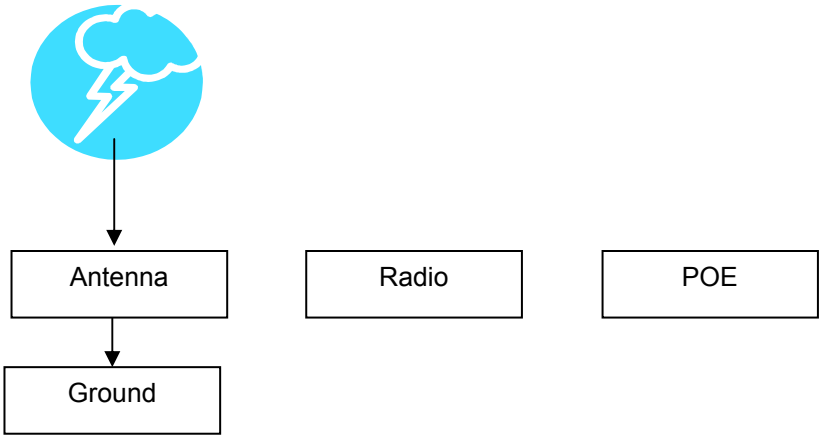
No. Lightning is not covered by the warranty. If you follow the instructions, your chances of lightning damage are greatly reduced, but nothing can protect a radio from a direct lightning strike.

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.

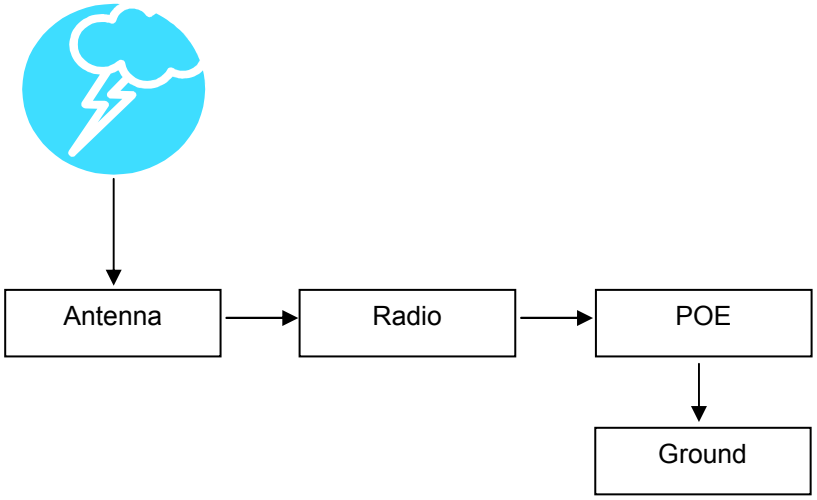
Grounded Radio

A grounded radio causes the surge to pass directly to ground, bypassing the radio.



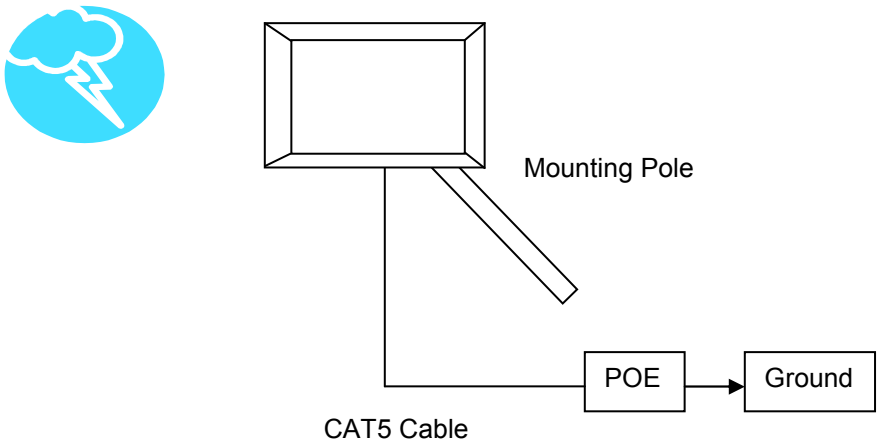
Ungrounded Radio

An ungrounded radio causes the surge to pass through the radio. In this case, the radio most likely will be damaged.



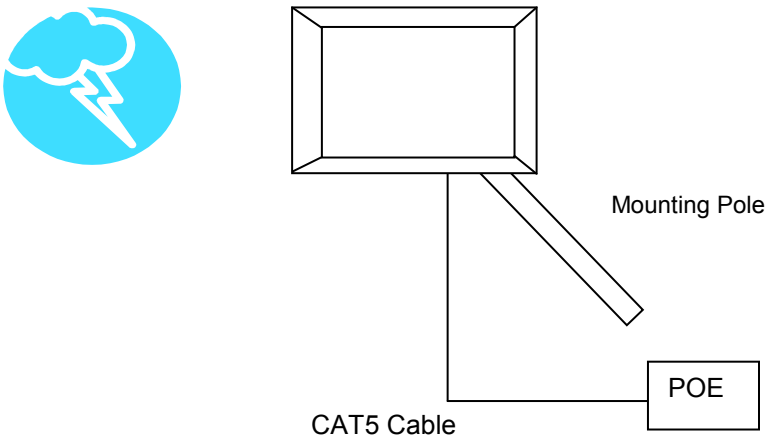
Grounded POE

In this case, the surge will be picked up by the CAT5 cable and since the POE is grounded, the route for the surge is through the POE to ground.



Ungrounded POE

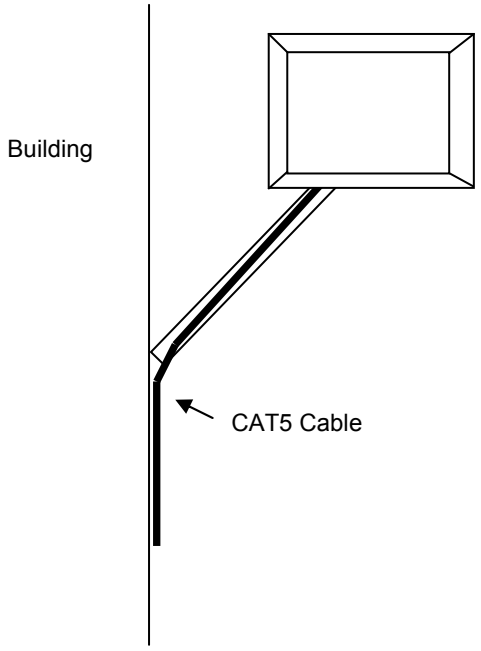
In this case, the surge will be picked up by the CAT5 cable and since the POE is not grounded, the route for the surge is through the radio to the antenna, and out through the building.



Best Practices

Follow these practices to ensure you're a correct installation and grounding.

- Always try to run the CAT5 and LMR inside of the mounting pole. This helps to insulate the cable from any air surges.



- Keep all runs as straight as possible. Never put a loop into the cables.
- Test all grounds to ensure that you are using a proper ground. If using an electrical socket for ground, use a socket tester, such as Radio Shack 22-141.
- Keep a copy of the National Electrical Code Guide at hand and follow its recommendations.
- 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.