



Configuring the Cisco 2960 Switch for Livewire™

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Introduction

Ethernet switches intended for use in constructing Axia Livewire IP-Audio networks must be properly pre-configured to provide required multicast filtering and quality of service (QoS) features. This document explains the required steps to configure Cisco 2960 switch specifically. These commands may be applicable to other members of the Catalyst product line that support these same commands.

For initial configuration of the device, you can use PuTTY, which is a free program that allows you to connect to the switch either via a Telnet session, or through a serial port and console session. If this is the first time the switch has been configured, you will have to connect to the switch via a console cable and serial connection to enter into the Express Setup. During the initial setup, you will assign the switch an IP address, which will then allow you to connect to the switch via a Telnet session. PuTTY can be used on both x86 and x64 bit systems, and can be downloaded here... <http://www.putty.org/>

IGMP is a function that you will be setting up on this switch, and for the IGMP querier process to work properly the switch should be assigned the lowest IP address in your Livewire subnet.

Please refer to your Cisco switch manual for additional information about Express Setup and the command line interface.

Configuration

To determine if your switch has Advanced IP Services or Basic IP Services (look for IPBASE string) software, use the “show ver” command.

```
show ver
```

To be able to make any configuration changes on the switch, you must enter Privileged User level by executing the “enable” command:

```
enable
```

In Cisco switches, ports are named according to their speed: “FastEthernet” or “GigabitEthernet”. When configuring your switch, you must use “Fa” or “GigabitEthernet” accordingly (e.g.: “fa0/1” or “gi0/1”). The last digit specifies actual port number on the switch.



VLAN 1 interface configuration

Enter your IP address and network mask.

```
config t
interface Vlan1
ip address 192.168.XXX.YYY 255.255.255.0
no shutdown
end
```

Global IGMP configuration

Enter the following instructions:

```
config t
ip igmp snooping querier
ip igmp snooping querier max-response-time 25
ip igmp snooping vlan 1 immediate-leave
ip igmp snooping querier timer expiry 205
end
```

Global QoS configuration

Enter the following instructions:

```
config t
mls qos srr-queue input buffers 50 50
mls qos srr-queue input cos-map queue 1 threshold 1 5
mls qos srr-queue input cos-map queue 2 threshold 1 6 7
mls qos srr-queue output cos-map queue 1 threshold 1 6 7
mls qos srr-queue output cos-map queue 3 threshold 1 5
mls qos
end
```



Configuring FastEthernet and GigabitEthernet ports connecting to Axia Devices

Enter the following instructions:

```
config t
interface fa0/x
switchport mode access
switchport nonegotiate
switchport block multicast
switchport voice vlan dot1p
srr-queue bandwidth share 30 20 25 25
srr-queue bandwidth shape 0 0 0 0
priority-queue out
spanning-tree portfast
mls qos trust cos
no ip igmp snooping tcn flood
end
```

* Where "x" is the port # to configure

* Use the RANGE command for multiple port configurations.

Syntax: interface range fa0/x - yy

* GigabitEthernet port configuration use syntax: gi0/x

Configuring ports connecting to other CISCO Catalyst switches

Enter the following instructions:

```
config t
interface GigabitEthernet 0/x
switchport mode trunk
switchport block multicast
srr-queue bandwidth share 30 20 25 25
srr-queue bandwidth shape 0 0 0 0
priority-queue out
mls qos trust cos
no ip igmp snooping tcn flood
end
```

* Where "x" is the port # to configure

* Use the RANGE command for multiple port configurations.

Syntax: interface range fa0/x - yy

* On a stackable switch use this syntax:

fa1/0/x or gi1/0/x



Check your configuration

To check your switch's complete configuration, enter:

```
show running-config
```

Save your configuration

Do not forget to save your new configuration. Enter the following instructions:

```
copy running-config startup-config
```

For more assistance:

If you have more questions about switch setup, contact Axia Support at support@telosalliance, or at 216-622-0247.