



## Cisco Ethernet Switch Quick Setup Guide

### For MuxLab AV over IP Devices



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## 1. Introduction

This document covers the basic setup requirements for a Cisco Ethernet Switch. The setup examples and screen shots shown are for the Cisco model SG300-10P, but these instructions are similar and applicable to other Cisco Ethernet Switch models.

## 2. MuxLab Ethernet Switch Setup Requirements

All MuxLab AV over IP Transmitters and Receivers require IGMP support to be enabled on the Ethernet Switch, and a select number of MuxLab units also require Jumbo Frames to be enabled.

Also note that all models below work on a 1G Ethernet Switch, except for the 500760, which requires a 10G Ethernet Switch.

The below table specifies the IGMP and Jumbo Frames requirement per MuxLab AV over IP Transmitter / Receiver model.

AV over IP Model	Ethernet Switch BW Required	IGMP Required	Jumbo Frame Required
500752	1G	X	
500753	1G	X	
500754	1G	X	
500755	1G	X	
500755-AMP	1G	X	
500756	1G	X	
500757	1G	X	
500758	1G	X	X
500759	1G	X	X
500760	10G	X	
500762	1G	X	
500770	1G	X	X
500771	1G	X	X

## 3. Ethernet Switch Setup

### 3.1. Enabling IGMP

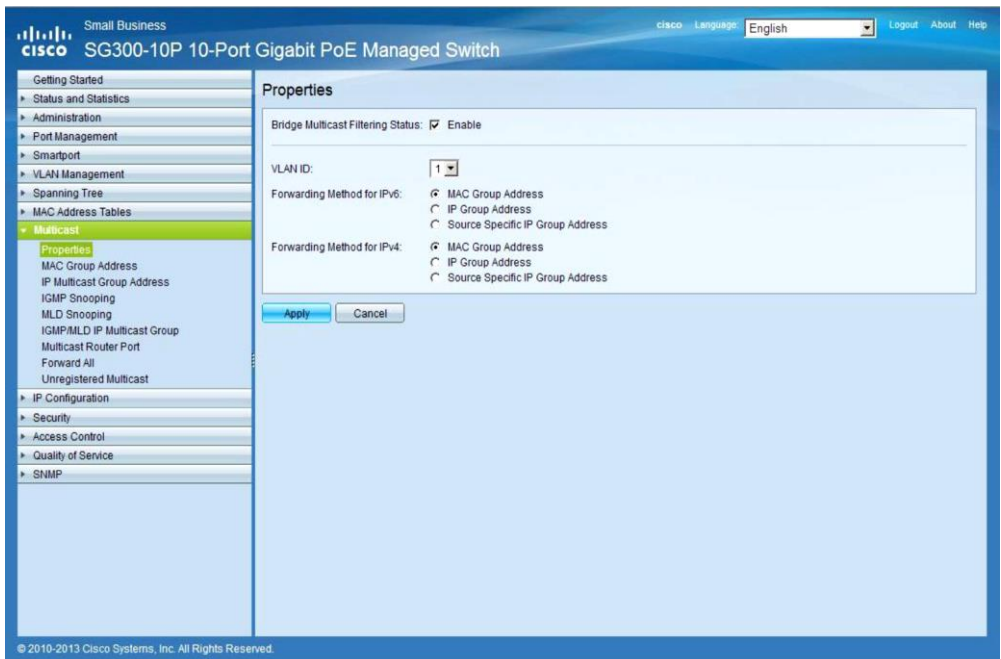
Follow the steps below to enable the IGMP feature on the Ethernet Switch. For further details on navigating through the Ethernet Switch web server menus, please refer to the Ethernet Switch manual.

Step 1: Access the Ethernet Switch web server

- Locate the Ethernet Switch default IP address
- Make sure your computer is on the same subnet as the Ethernet Switch  
(your network administration can assist you with this, if required)
- Enter the Ethernet Switch IP address into a browser

Step 2: IGMP Snooping Configuration

- Navigate to the menu:  
[Multicast → Properties]
- Set the configuration as shown below, and then click [Apply]



- Navigate to the menu:  
[Multicast → IGMP Snooping]
- (a) Enable the “IGMP Snooping Status” as shown below, and then click [Apply]

The screenshot shows the configuration page for IGMP Snooping on a Cisco SG300-10P switch. The left sidebar contains a navigation menu with 'Multicast' expanded, showing 'IGMP Snooping' as the selected option. The main content area is titled 'IGMP Snooping' and features a status section where 'IGMP Snooping Status' is set to 'Enable' with a checked checkbox. Below this are 'Apply' and 'Cancel' buttons. A table titled 'IGMP Snooping Table' displays the configuration for a single entry. The table has columns for Entry No., VLAN ID, IGMP Snooping Operational Status, Router IGMP Version, MRouter Ports Auto Learn, Query Robustness, Query Interval (sec), Query Max Response Interval (sec), and Last Member Query Count. The first entry shows a status of 'Enabled' and a query interval of 125 seconds. At the bottom of the table are 'Copy Settings...' and 'Edit...' buttons. The footer of the interface indicates the copyright for 2010-2013 Cisco Systems, Inc.

Entry No.	VLAN ID	IGMP Snooping Operational Status	Router IGMP Version	MRouter Ports Auto Learn	Query Robustness	Query Interval (sec)	Query Max Response Interval (sec)	Last Member Query Count
1	1	Enabled	v3	Enabled	2	125	10	

- (b) Select the radio button as shown below, and click *[Edit]*

Small Business  
Cisco SG300-10P 10-Port Gigabit PoE Managed Switch

Language: English Logout About Help

Getting Started  
Status and Statistics  
Administration  
Port Management  
Smartport  
VLAN Management  
Spanning Tree  
MAC Address Tables  
**Multicast**  
Properties  
MAC Group Address  
IP Multicast Group Address  
**IGMP Snooping**  
MLD Snooping  
IGMP/MLD IP Multicast Group  
Multicast Router Port  
Forward All  
Unregistered Multicast  
IP Configuration  
Security  
Access Control  
Quality of Service  
SNMP

### IGMP Snooping

IGMP Snooping Status: ☒ Enable

Apply Cancel

Entry No.	VLAN ID	IGMP Snooping Operational Status	Router IGMP Version	MRouter Ports Auto Learn	Query Robustness	Query Interval (sec)	Query Max Response Interval (sec)	Last Member Query Count
1	1	Enabled	v3	Enabled	2	125	10	

Copy Settings... Edit...

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- (c) Set the configuration as shown below, and then click [Apply]

VLAN ID:	<input type="text" value="1"/>		
IGMP Snooping Status:	<input checked="" type="checkbox"/> Enable	Operational IGMP Snooping Status:	Enable
MRouter Ports Auto Learn:	<input checked="" type="checkbox"/> Enable		
Query Robustness:	<input type="text" value="2"/> (Range: 1 - 7, Default: 2)	Operational Query Robustness:	2
Query Interval:	<input type="text" value="125"/> sec (Range: 30 - 18000, Default: 125)	Operational Query Interval:	125
Query Max Response Interval:	<input type="text" value="10"/> sec (Range: 5 - 20, Default: 10)	Operational Query Max Response Interval:	10
Last Member Query Counter:	<input checked="" type="radio"/> Use Default <input type="radio"/> User Defined <input type="text"/> (Range: 1 - 7, Default: 2 (Query Robustness))	Operational Last Member Query Counter:	2
Last Member Query Interval:	<input type="text" value="1000"/> mS (Range: 100 - 25500, Default: 1000)	Operational Last Member Query Interval:	1000
Immediate leave:	<input checked="" type="checkbox"/> Enable		
IGMP Querier Status:	<input type="checkbox"/> Enable		
Administrative Querier Source IP Address:	<input checked="" type="radio"/> Auto <input type="radio"/> User Defined <input type="text" value="168.168.1.1"/>	Operational Querier Source IP Address:	
IGMP Querier Version:	<input checked="" type="radio"/> IGMPV2 <input type="radio"/> IGMPV3		
<input type="button" value="Apply"/> <input type="button" value="Close"/>			

### Step 3: Save the above configuration changes

- Navigate to the menu:  
[Administration → File Management → Copy/Save Configuration]
- Click on [Apply] as shown below

The screenshot shows the Cisco SG300-10P 10-Port Gigabit PoE Managed Switch web interface. The left sidebar shows the navigation menu with 'Administration' expanded and 'Copy/Save Configuration' selected. The main content area displays the 'Copy/Save Configuration' dialog box with the following settings:

- Source File Name: ☒ Running configuration, ☐ Startup configuration, ☐ Backup configuration, ☐ Mirror configuration
- Destination File Name: ☐ Running configuration, ☐ Startup configuration, ☐ Backup configuration
- Sensitive Data: ☒ Exclude, ☐ Encrypted, ☐ Plaintext
- Save Icon Blinking: ☒ Enabled

Buttons at the bottom:

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### 3.2. Enabling Jumbo Frames

Follow the steps below to enable the Jumbo Frames feature on the Ethernet Switch. For further details on navigating through the Ethernet Switch web server menus, please refer to the Ethernet Switch manual.

#### Step 1: Enable Jumbo Frames

- Navigate to the menu:  
[Port Management > Port Settings]
- Check the “Jumbo Frame” checkbox as shown below, then click [Save]

Small Business  
cisco SG300-28P 28-Port Gigabit PoE Managed Switch

Getting Started  
Status and Statistics  
Administration  
Port Management  
Port Settings  
Error Recovery Settings  
Loopback Detection Settings  
Link Aggregation  
UDLD  
PoE  
Green Ethernet  
Smartport  
VLAN Management  
Spanning Tree  
MAC Address Tables  
Multicast  
IP Configuration  
Security  
Access Control  
Quality of Service  
SNMP

**Port Settings**

Jumbo Frames: ☒ Enable

Jumbo frames configuration changes will take effect after saving the configuration and rebooting the switch.

Apply Cancel

**Port Setting Table**

Entry No.	Port	Description	Port Type	Operational Status	Link Status	SNMP Traps	Time Range	Port Speed	Duplex Mode	LAG	Protection State
1	GE1		1000M-Copper	Down	Enabled						Unprotected
2	GE2		1000M-Copper	Up	Enabled			1000M	Full		Unprotected
3	GE3		1000M-Copper	Down	Enabled						Unprotected
4	GE4		1000M-Copper	Up	Enabled			100M	Full		Unprotected
5	GE5		1000M-Copper	Down	Enabled						Unprotected
6	GE6		1000M-Copper	Down	Enabled						Unprotected
7	GE7		1000M-Copper	Up	Enabled			1000M	Full		Unprotected
8	GE8		1000M-Copper	Down	Enabled						Unprotected
9	GE9		1000M-Copper	Up	Enabled			100M	Full		Unprotected
10	GE10		1000M-Copper	Down	Enabled						Unprotected
11	GE11		1000M-Copper	Up	Enabled			100M	Full		Unprotected
12	GE12		1000M-Copper	Up	Enabled			100M	Full		Unprotected
13	GE13		1000M-Copper	Down	Enabled						Unprotected

#### Step # 2: Save the above configuration changes

- Navigate to the menu:  
[Administration > File Management > Copy/Save Configuration]
- Click on [Apply]



## 4. Preparing for System Installation

The Ethernet Switch is now properly configured to support MuxLab AV over IP devices with respect to IGMP and Jumbo Frames.

Note that MuxLab AV over IP Transmitters and Receivers are set by default with DHCP enabled, and the MuxLab 500811 ProDigital Network Controller has DHCP disabled by default and is set to a Static IP address of 192.168.168.50. It is recommended that you operate your system with the Transmitters and Receivers with DHCP enable and the 500811 Network Controller with DHCP disabled.

If however you intend to disable the DHCP on the Transmitters and Receivers, then please take note that the default Static IP address for the Transmitters is 192.168.168.55, and for the Receivers is 192.168.168.56.

Note that in order for the entire system to operate correctly, the Ethernet Switch, MuxLab Transmitters and Receivers, and the MuxLab ProDigital Network Controller must all be on the same subnet. Devices with DHCP enabled will adjust automatically to the correct subnet, while devices with DHCP disabled, may need to be set by the user to the correct subnet, if not already set correctly. Your network administrator can assist with this configuration if you are not familiar with how to accomplish this task.

If you are having issues which require further assistance, please contact the respective device manufacturer for the device in question. For MuxLab device related questions, please contact MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).



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