



# Switch Configuration Example for Q-SYS™ Platform

## Netgear M4100 and M5300 Gigabit

### Important Note

This switch configuration example is intended to serve as a network setup guideline for systems using only Q-LAN audio streaming within your Q-SYS system and should be used alongside the [Q-SYS Q-LAN Networking Overview](#) tech note for deeper setup insight. Keep in mind that QSC is unable to provide live network configuration support for third-party switch configuration. To learn more about network switch qualification services and the plug-and-play Q-SYS NS Series preconfigured network switches, visit <http://www.qsc.com/switches>.

This document applies to these Netgear switches:  
**M4100 Gigabit | M5300 Gigabit**

### Introduction

As of release 5.3.x, Q-SYS Designer software now supports AES67-standard interoperability. The AES67 standard does not prescribe a method of discovery for devices so manufacturers are free to implement one or more discovery services for their devices. In this configuration document, the process uses Bonjour as the discovery method for AES67 devices.

Q-SYS Designer now also offers a selection of Differential Services Code Point (DSCP) setting presets to optimize Quality of Service (QoS) for different types of deployment. DSCP codes are a six-bit value placed in the IP header of data packet, and they instruct a network switch to handle various types of data with defined levels of priority that ensure proper QoS.

### Configuration

1. If the switch is not connected to a network with a DHCP server, the switch IP address will use the 169.254.100.100 as the default. If it is connected to a network with a DHCP server, you will have to determine the IP address using either the USB or serial port and a terminal emulation program. Follow the instructions in the switch's *Installation Guide* for how to do this.
2. Once you have determined the IP address of the switch, enter it into the address box of a web browser to begin the setup process. You can change the IP via the web interface if necessary.
3. At the Login window, enter **admin** as the user. Leave the password field blank and click **Login**.
4. Select **QoS**.

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### CoS Configuration

The screenshot shows the 'CoS Configuration' window. It has two tabs: 'Global' (selected) and 'Interface'. Under 'Global', 'Global Trust Mode' is set to 'trust ip-dscp'. Under 'Interface', 'Interface Trust Mode' is set to 'trust dot1p'.

5. Under **CoS Configuration**, at **Global Trust Mode** select **trust ip-dscp** and click **Apply**.

6. Go to **Basic > Advanced** and click **Interface Queue Configuration**.
7. Select the top check box. This will select all the switch's interfaces.
8. At **Scheduler Type**, select **Strict** and click **Apply**.
9. Click **IP DSCP to Queue Mapping**.
10. At DSCP Value 34, select **5**.  
At DSCP Value 46, select **6**.  
Click **Apply**.

The switch QoS is now suitable for Q-LAN but the settings must still be saved to memory. Select **Maintenance** and use **Save Configuration**.

You can make a backup copy of the configuration file for safekeeping or to clone the setup on another identical switch. Select **Maintenance** and click **Upload**. Select **HTTP File Upload**. At **File Type** select **Text Configuration** and click **Apply**. The configuration file will upload to your PC.

The next procedure enables IGMP Snooping, which is optional but will prevent non-Q-SYS multicast packets being sent to ports hosting Q-SYS devices and vice-versa.

1. Select **Switching**, then select **Multicast**.
2. Select **IGMP Snooping**.
3. At **Admin Mode**, select **Enable** and **Validate IGMP IP Header**. Click **Apply**.

### IGMP VLAN Configuration

	VLAN ID	Admin Mode	Fast Leave Admin Mode	Group Membership Interval	Maximum Response Time	Multicast Router Expiry Time
<input checked="" type="checkbox"/>	1	Enable	Enable			

4. Click **IGMP VLAN Configuration**.
5. At each VLAN (1 is the ID of the default VLAN), enable both **Admin Mode** and **Fast Leave Admin Mode**. Click **Add**.

6. Click **Querier Configuration**.
7. Enable **Querier Admin Mode** and click **Apply**.
8. Click **Querier VLAN Configuration**.

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### IGMP Snooping Querier VLAN Configuration

IGMP Snooping Querier VLAN Configuration							
VLAN ID	Querier Election Participate Mode	Querier VLAN Address	Operational State	Operational Version	Last Querier Address	Last Querier Version	Operational Max Response Time
1	Enable	0.0.0.0	Querier	2	10.104.139.1	2	10

At **Operational State** the displayed status will be **Querier** unless there is another IGMP Querier switch with a higher IP address on the same network, in which case it will be **Non-Querier**.

- At **VLAN ID** enter **1** (for the default VLAN).
- At **Querier Election Participate Mode** select **Enable** and click **Add**.

- Go to **MFDB > Bridge Multicast Forwarding**. Select the top check box to select all the VLANs. At **Forwarding Mode** select **Filter Unregistered**. Click **Apply**.

IGMP Snooping is now set up. Save these new settings to memory under **Maintenance** and make a backup if you wish.