

This document provides a brief overview of integrating QSC Q-SYS AES67 devices with AudioScience Iyo Dante products operating in AES67 mode, utilizing Q-SYS Designer with a Q-SYS Core 110f. Understanding of Q-SYS Designer and AES67 Networking is assumed.

## 1 Important Notes

- AES67 mode in Dante Controller for the Iyo must remain enabled.
- The Core AES67 Transport IP address range must remain the default (239.69.xxx.xxx).
- The Iyo Dante AES67 Transmitters/Receivers are only compatible with **8-channel** Core AES67 Receivers/Transmitters.
- A Core should only be power cycled when all Transmitter flow sessions are disabled. In the event that there are active flows at the time of the power cycle, all Iyos on the network should be rebooted either by power cycling them or by using Dante Controller to remotely restart the Iyos.
- **Core AES67 Transmitter flows should be assigned static Multicast Addresses. Failure to do so will affect the Iyo plugin's ability to reconnect to flows.**

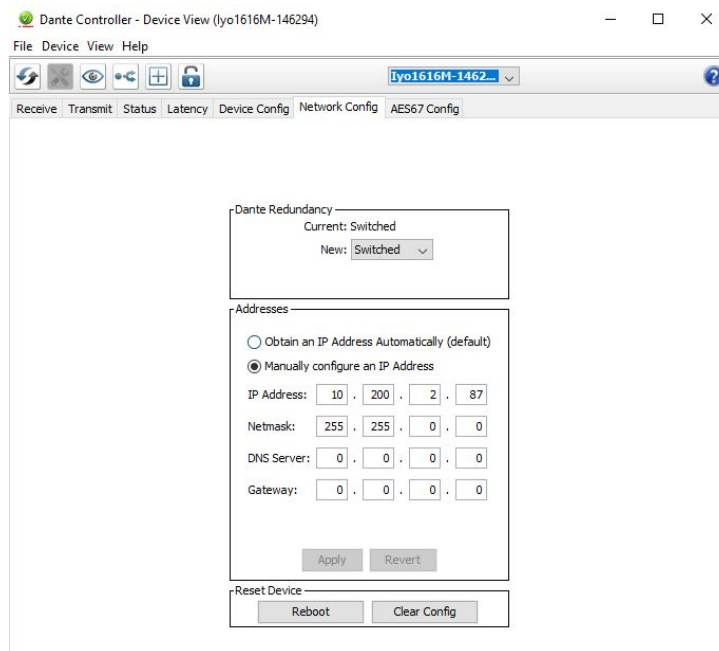
## 2 Update Iyo Firmware

Use [Dante Firmware Update Manager](#) to update the Iyo to the latest firmware, downloaded from the AudioScience Iyo [web page](#). If the Iyo does not appear in Firmware Update Manager, ensure the selected network interface in Update Manager and the Iyo are on the same subnet (see section 3 below for help).

## 3 Configure Iyo Network Interface in Dante Controller

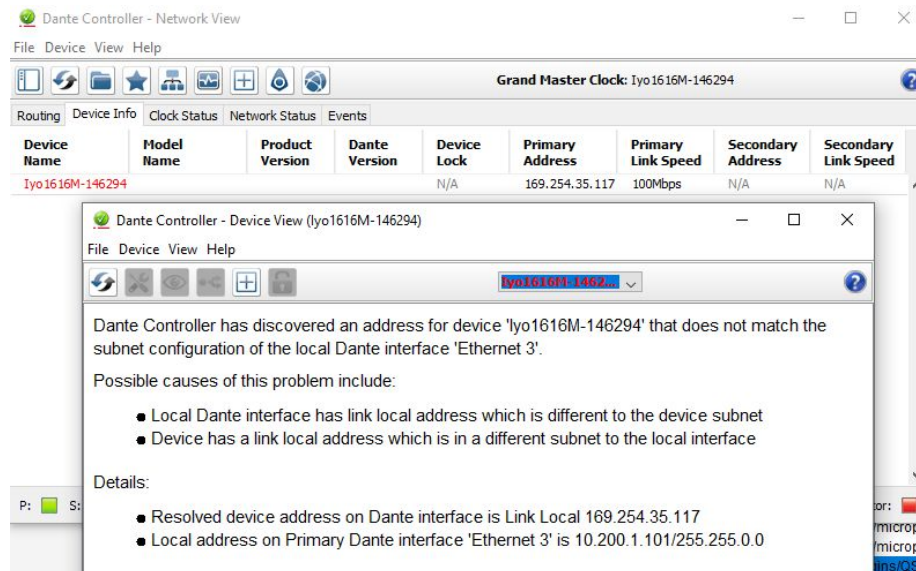
The Q-SYS Core and Iyo must be members of the same network subnet for the QSC plugin to communicate with the Iyo.

Use Dante Controller to discover and configure the network interface of the Iyo. Iyos are in DHCP mode by default. If a static IP is required, navigate to the Network Config tab and click 'Manually configure an IP Address'.



**Figure 1 Assign static IP to Iyo**

Dante Controller will display an error (see below) if the subnet of the Iyo and the selected Dante Controller network interface do not match. The example below is an interface with a static IP address trying to communicate with a default Iyo connected to a network without a DHCP server. Match the selected Dante Controller network interface subnet to the Iyo's network interface subnet in order to configure the device.



**Figure 2 Dante Controller Iyo subnet mismatch**

## 4 Add Iyo Dante plugin to Q-SYS Designer

From Q-SYS Designer, open Asset Manager (Tools > Show Q-SYS Asset Manager). Search for and install the latest AudioScience Iyo Dante plugin.

From the “Plugins” grouping in the bottom right corner, find and drag “Iyo Dante” onto the canvas.

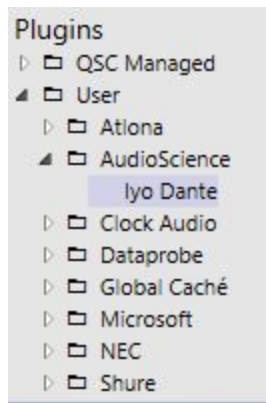


Figure 3 Adding Iyo Dante Plugin

## 5 Iyo Model Type Selection

Click on the Iyo plugin and navigate to the ‘Properties’ window in Designer. Use the ‘Model Type’ dropdown to select the Iyo version that matches your device.

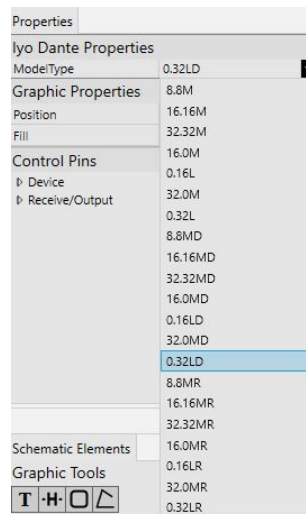


Figure 4 Iyo Dante plugin Model Type selection

6 Iyo Dante plugin overview

**AudioScience Iyo Dante (AES67 mode) 3.0.0**

Channels 1 - 8 | Channels 9 - 16 | Channels 17 - 24 | Channels 25 - 32

**Select a Device**  
Iyo3232R-146296  
OK

**Device**  
Model Name: Iyo Dante 32.32MR  
Model No.: ASI2763  
Hardware Rev.: C0  
Serial No.: 110029  
Primary MAC: 00:1D:C1:14:62:96

**Firmware**  
AudioScience: iyo-dante-rj45-3.0.0-dev.6

**Status**  
Sync: ● slave  
Sys: ● ok  
Identify

**Settings**  
LED Brightness: 100%

**Mic/Line In**

	1	2	3	4	5	6	7	8
Meter Peak	-43dBFS	Low	Low	Low	Low	Low	Low	Low
Gain	84 dB	10 dB	10 dB	10 dB	10 dB	10 dB	10 dB	10 dB
Level	-60 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu
Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
Phantom Power	48V	48V	48V	48V	48V	48V	48V	48V
AES67 Status	Streaming, 239.69.161.130@Iyo3232R-146296 : Mic/LineIn 1-8							
AES67	On							

**Line Out**

	1	2	3	4	5	6	7	8
Meter Peak	Low	Low	Low	Low	Low	Low	Low	Low
Level	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu	14 dBu
Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
AES67 Status	Connected to 239.69.23.244@AES67-TX-1, status: OK							
AES67	239.69.23.244@AES67-TX-1							

Figure 5 Iyo Dante Plugin

## 7 Connect to an Iyo

With the Core running, navigate to the 'Select a Device' grouping and click on an Iyo from the dropdown list to establish a connection to the device. **NOTE: only devices of the type selected in the Model Type Properties field (see section 2) will appear in this list.**



Figure 6 Device Connection

The status bar below the device selection dropdown indicates the current connection status between the Core and the Iyo.



Figure 7 Device Connecting



Figure 8 Device Connection OK



Figure 9 Device Connection Error

## 8 Connecting Q-SYS Mic/Line In to Iyo Receive/Output

In Q-SYS Designer, route a Mic/Line In component to an AES67 Transmitter component

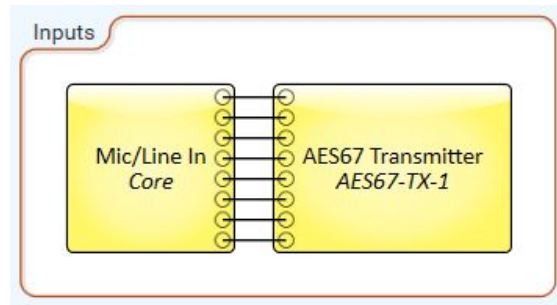


Figure 10 QSC Input and AES67 Transmitter Components

Click "Enable" in the AES67 Transmitter configuration window

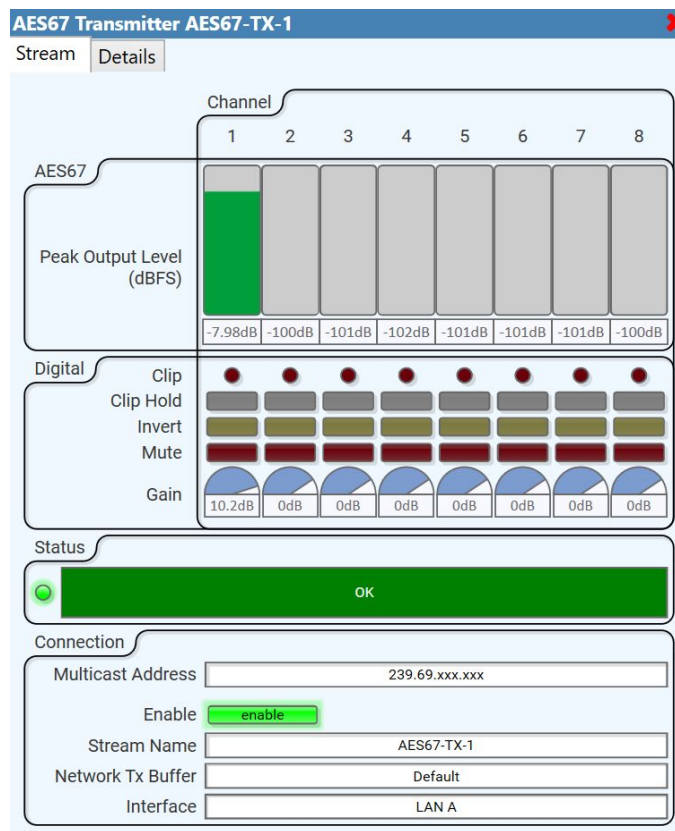
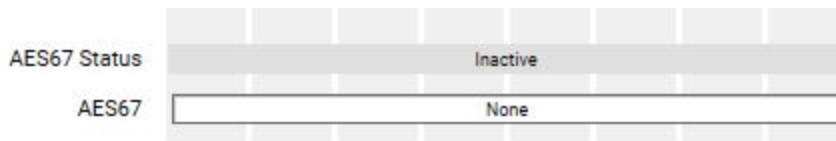


Figure 11 QSC AES67 Transmitter Configuration

In the Iyo plugin, search for the QSC Transmitter Stream Name (e.g. **AES67-TX-1**) in the AES67 dropdown list as shown below. Select the desired QSC Transmit flow you wish to connect to the Receive/Output channels. To unsubscribe from this flow, select “None”

AES67 Status will display “**Inactive**” if the Receive/Output channels are not currently connected to an AES67 transmit flow.



**Figure 12 Iyo Receive/Output AES67 Selection, status Inactive**

AES67 Status will display “**Pending**” if the Receive/Output channels are in the process of connecting/disconnecting to/from an AES67 transmit flow.

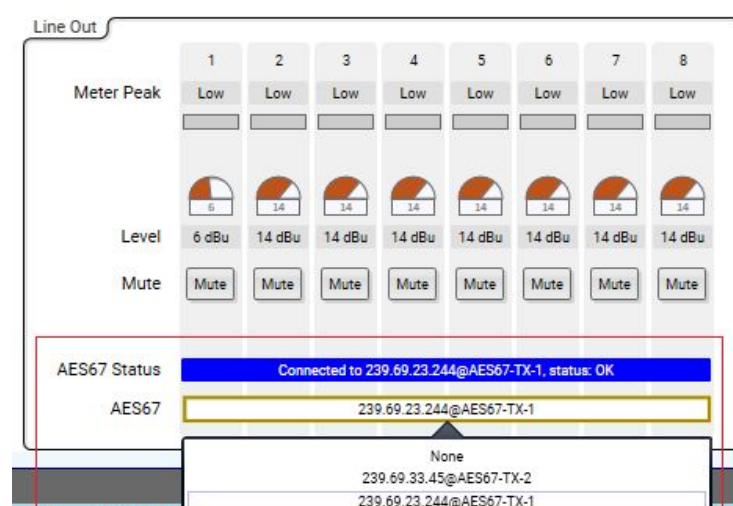


**Figure 13 Iyo Receive/Output AES67 Selection, status Pending**

AES67 Status will display “...**status: NO AUDIO**” if the Receive/Output channels are connected to an AES67 transmit flow but no audio is detected. Check that the selected AES67 Transmitter is **enabled** and has a **static Multicast address** in the 239.69.xxx.xxx range. (Example error below caused by multicast error out of range)



**Figure 14 Iyo Receive/Output AES67 Selection, status Error**



**Figure 15 Iyo Receive/Output AES67 Selection, status OK**

## 9 Connecting Iyo Input/Transmit to Q-SYS Output

In the Iyo plugin, start/stop an 8-channel transmit flow by clicking the “OFF/ON” button as shown below. **Note: Only 8-channel Core AES67 Receiver blocks are compatible.**

AES67 status will display “Inactive” if the flow is not currently streaming.



Figure 16 Iyo Input/Transmit AES67, status Inactive

AES67 status will display “Pending” when the flow is in the process of starting or stopping.



Figure 17 Iyo Input/Transmit AES67, status Pending

Once started, the AES67 Status field will display the transport IPv4 and the session name of the transmit flow ((transport\_ipv4@[session\_name])).

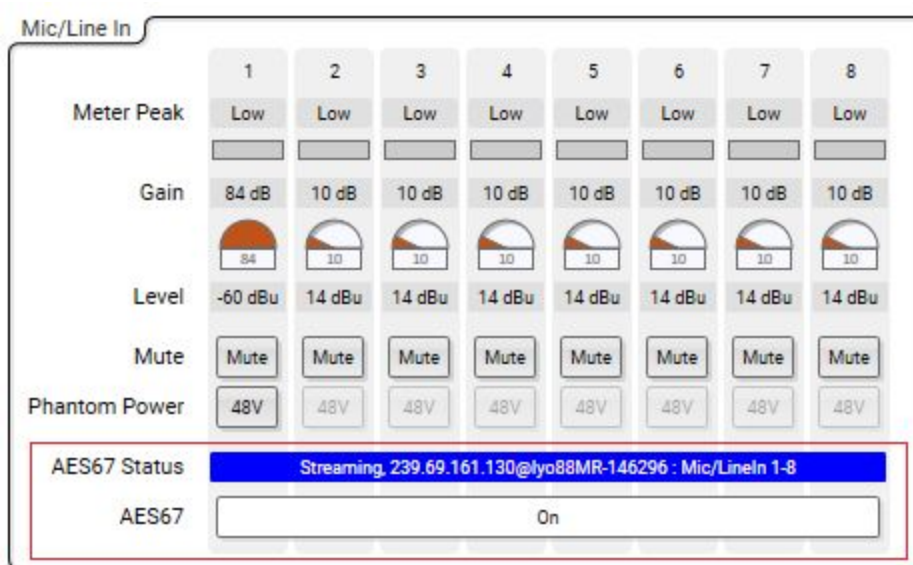


Figure 18 Iyo Input/Transmit AES67, status OK



In Q-Sys Designer, route an AES67 Receiver component to an Output component

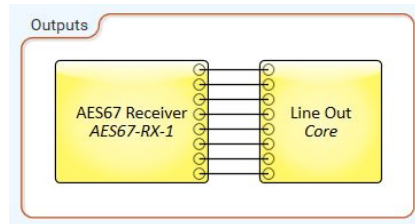


Figure 19 QSC AES67 Receiver and Output Components

In the AES67 Receiver configuration window, choose the Iyo Transmit Stream Name (e.g. Iyo1616M-146294 : Mic/Line 1-8) from the Stream Name dropdown list

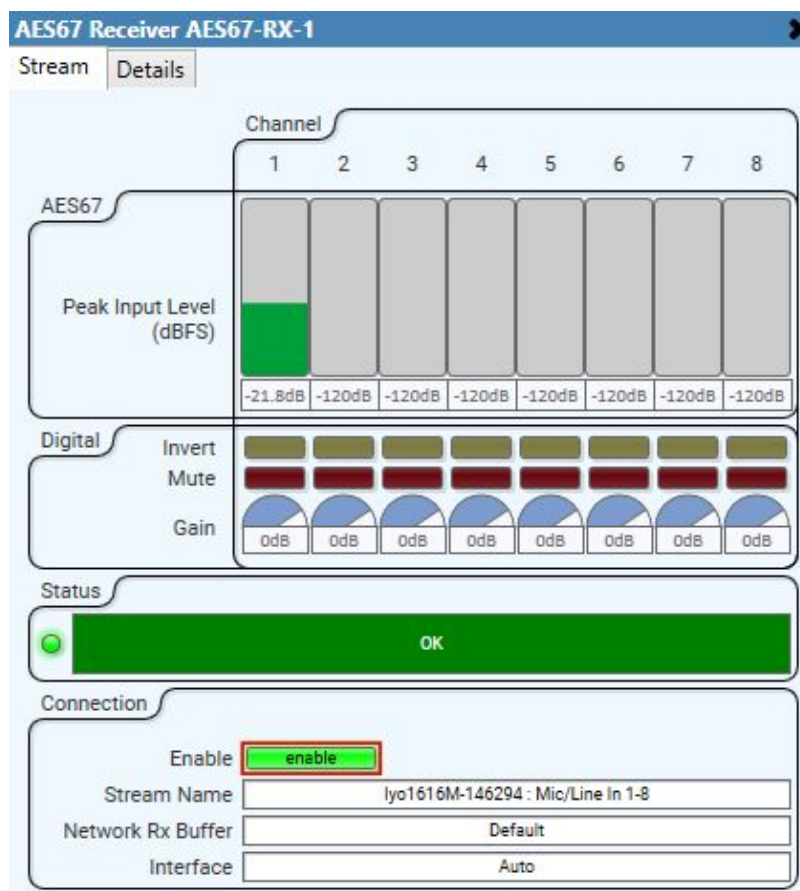


Figure 20 QSC AES67 Receiver Configuration

## 10 Control Pin Overview

### Device

Pin Name	Type	Range	Pins Available
Firmware:AudioScience	Text	-	Output
Firmware:XMOS	Text	-	Output
Info:Hardware Rev.	Text	-	Output
Info:Model Name	Text	-	Output
Info:Model No.	Text	-	Output
Info:Primary MAC	Text	-	Output
Info:Serial No.	Text	-	Output
Settings:LED Brightness	Text	'25%', '50%', '75%', '100%'	Input/Output
Status:Identify	Button	trigger	Input/Output
Status:Sync	Indicator	-	Output
Status:Sys	Indicator	-	Output
MuteAllInputs	Button	trigger	Input
UnmuteAllInputs	Button	trigger	Input
MuteAllOutputs	Button	trigger	Input
UnmuteAllOutputs	Button	trigger	Input

### Input/Transmit (per channel)

Pin Name	Type	Range	Pins Available
Gain (dB)	Knob	0 to 84 dB	Input/Output
Level (dBu)	Text	-60 to +24 dBu	Output
Peak Meter (dBFS)	Text	-60dBFS to 0 (Clipping)	Output
Phantom Power	Button	1 ('true') - On, 0 ('false') - Off	Input/Output
Mute	Button	1 ('true') - On, 0 ('false') - Off	Input/Output

Receive/Output (per channel)

Pin Name	Type	Range	Pins Available
Level (dBu)	Knob	-10 to +24 dBu	Input/Output
Peak Meter (dBFS)	Text	-60dBFS to 0 (Clipping)	Output
Mute	Button	1 ('true') - On, 0 ('false') - Off	Input/Output

**11 Plugin Release Notes**

v3.0.0 (July 2019)

- Support for 14 new DB-25 and RJ-45 connector Iyo models
- Support for WASP 3.0
- Simplified AES67 connection UI

v2.1.0 (March 2019)

- Add per-channel output mute
- Add MuteAllInputs, UnmuteAllInputs, MuteAllOutputs, UnmuteAllOutputs pins

v2.0.2 (March 2019)

- Improved, documented AES67 error reporting
- Implement device reconnect

v2.0.1 (February 2019)

- Modify Iyo Firmware compatibility check

v2.0.0 (January 2019)

- WASP 2.0 [http://www.audioscience.com/internet/download/sdk/wasp/wasp\\_2.0.9.html](http://www.audioscience.com/internet/download/sdk/wasp/wasp_2.0.9.html)
- Add device auto-connect feature
- Multi-pin support - Handle bulk requests

v1.1.0 (December 2018)

- Add per-channel input mute
- Add incompatible Iyo firmware alert

v1.0.0 (December 2018)

- Initial release