ATLONA
a PANDUIT company

OmniStream™

by Atlona

QSC

Integration Note for Q-SYS™ Platform

OmniStream | Manuals
Integration Note

Version Information

Version	Release Date	Notes
1	02/19	Initial release

Integration Note

Atlona OmniStream products support AES67 audio which delivers high-performance LPCM audio streaming over IP networks. The following outlines the procedure for receiving AES67 audio from an OmniStream encoder to the Q-SYS Core. Both the Q-SYS Core and the encoder are assumed to be on the same VLAN. This integration note uses Q-SYS Designer 7.2.1.

This document is divided into three sections and covers the following topics:

I. Configuring the PTP Domain and PTP Priority.

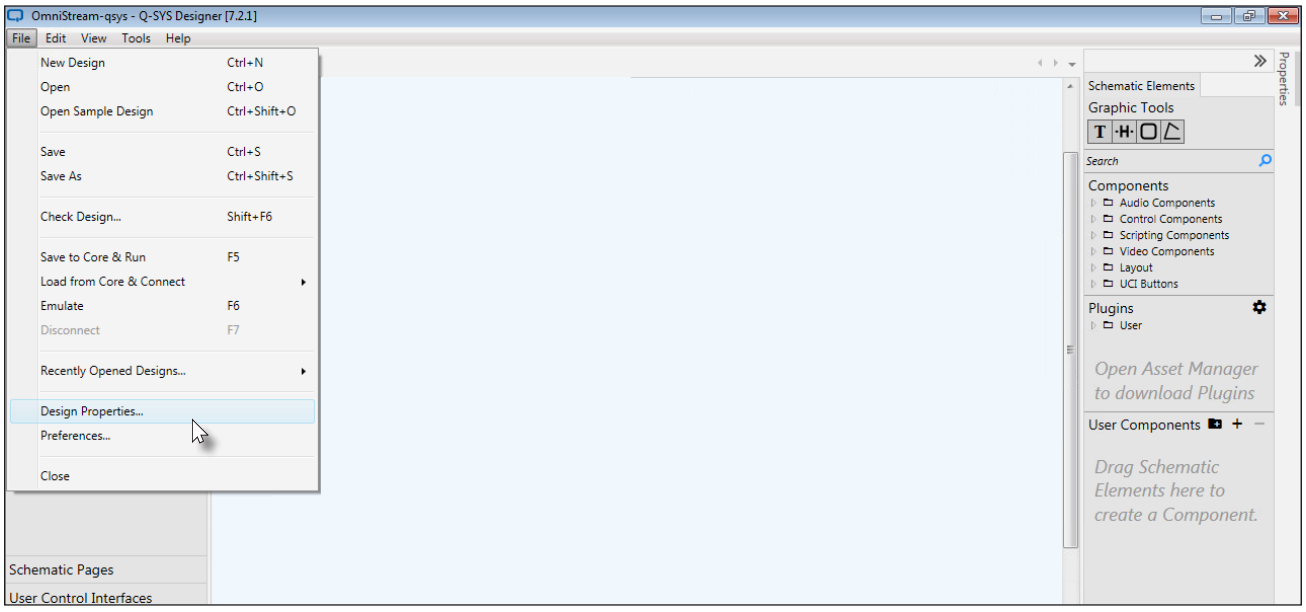
II. Creating the AES67 Session.

III. Linking the Receiver Object.

Configuring the PTP Domain and PTP Priority

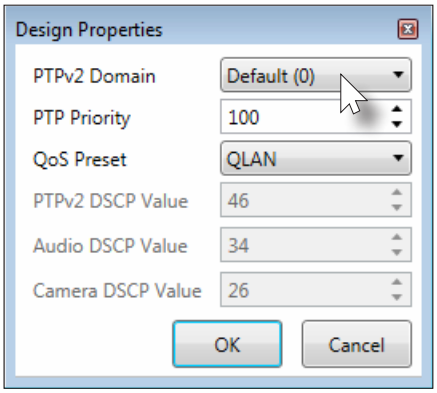
In order for AES67 to function properly, the PTP settings within both Q-SYS and OmniStream must be properly configured. This first section covers PTP priority and PTP domain configuration.

1. Launch the Q-SYS Designer software.
2. Click **File** > **Open** and load the desired design file.



3. Click **File** > **Design Properties**. The **Design Properties** dialog will be displayed.

   By default, Q-SYS uses 0 for the **PTPv2 Domain** and the **PTP Priority** is set to 100. If a different domain is desired, click the **PTPv2 Domain** drop-down list and select the desired range. Consult with an IT administrator or Q-SYS documentation for assistance.



PTP Domain value and PTP Priority

In general, a smaller PTP priority value will result in a higher probability for the device to become the PTP Grandmaster (GM) clock. If Q-SYS will be the PTP GM, then make sure that the PTP priority on Q-SYS has a lower PTP Grandmaster priority value than OmniStream.

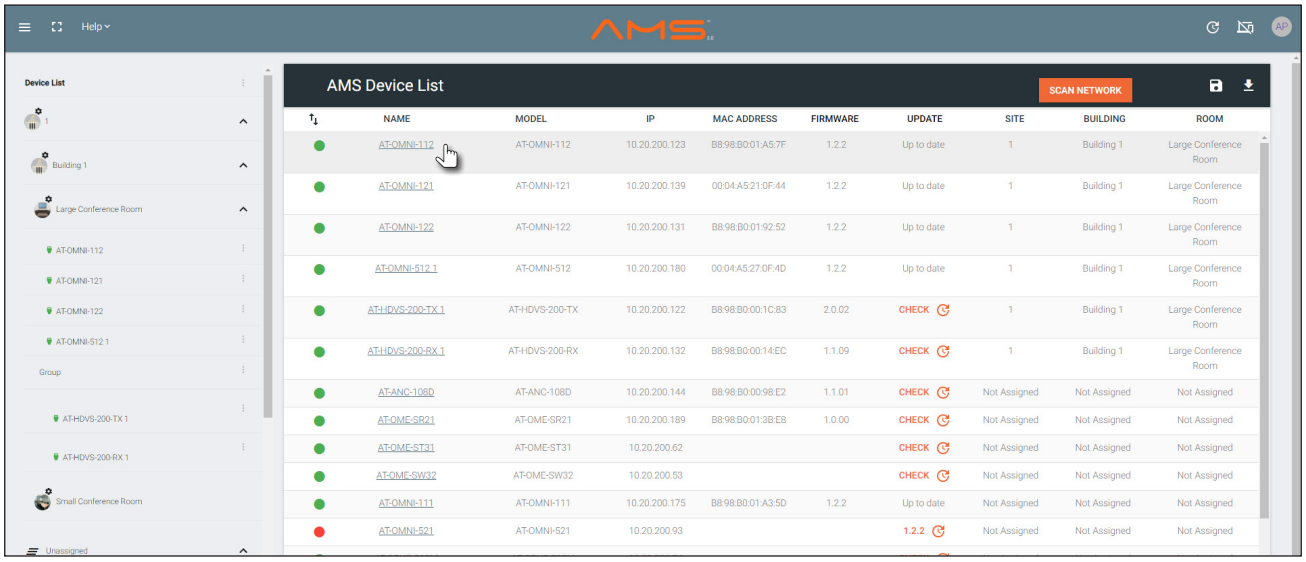
If the Q-SYS Core has become the PTP GM, then the PTP priority of the Q-SYS should be below 128. Note that OmniStream devices use 128 as the default PTP priority value.

PTP GM election will only occur if both Q-SYS and the OmniStream device are in the same PTP domain.

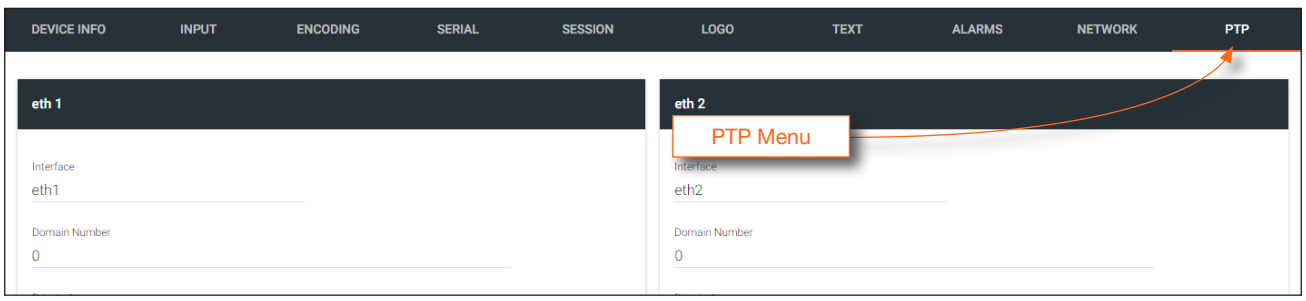
4. Click **File** > **Save to Core & Run** to push the design file to the Q-SYS Core.
5. Launch a web browser and enter the IP address of AMS.

NOTE: OmniStream provides a built-in web server. If AMS is not available, then enter the IP address of the desired encoder, and provide the correct login credentials. The default login credentials are: admin (username), Atlona (password).

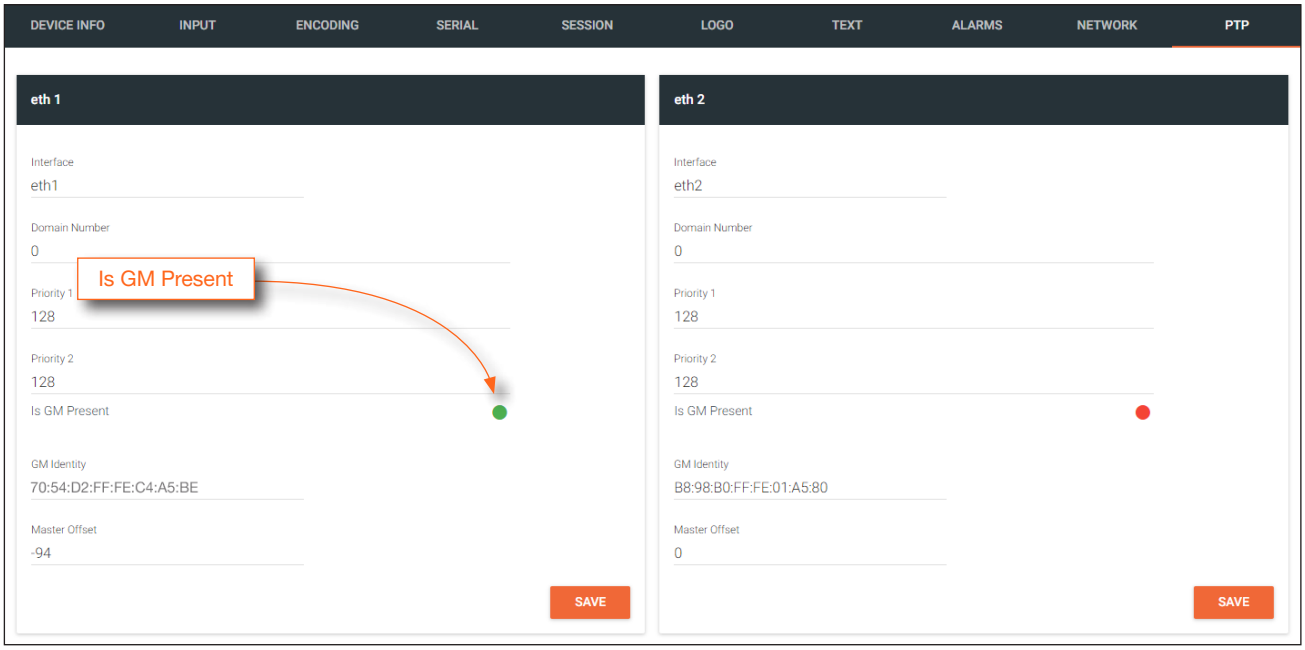
6. Enter the required AMS login credentials.
7. Click the **Login** button.
8. Click the desired encoder, within the AMS software. In this example, the AT-OMNI-112 dual-channel encoder is being selected.



9. Click **PTP** in the top menu bar.



The OmniStream interface that is connected to the network, will participate in the PTP GM clock election process. In this case, **eth1** is connected and is noted by a green indicator, next to **Is GM Present**, shown below.

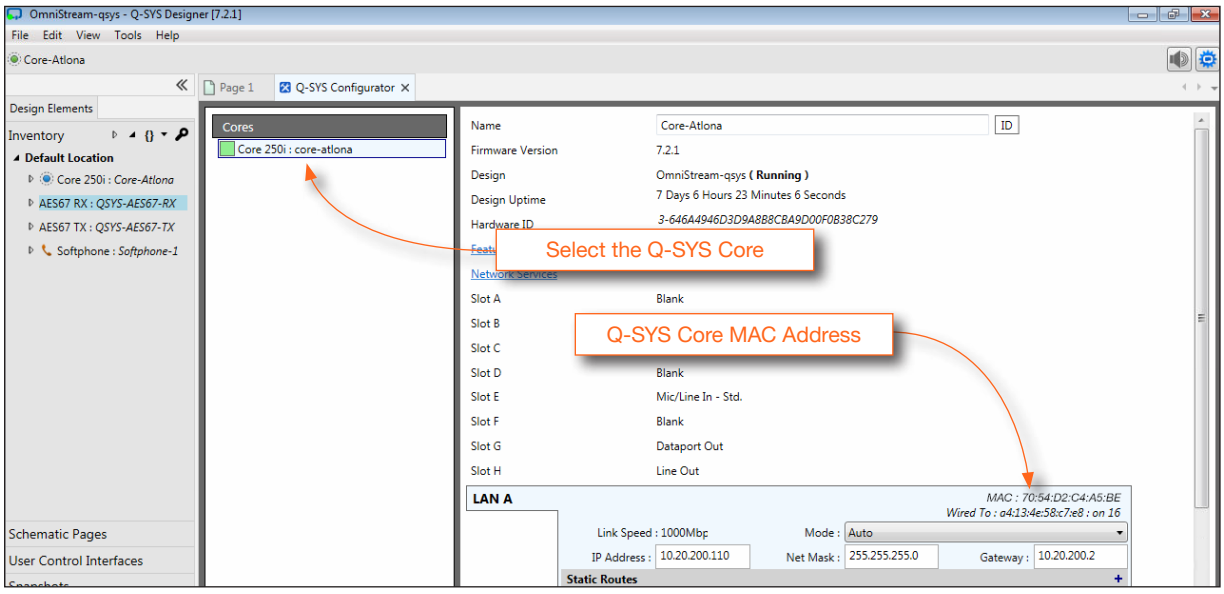


10. Verify that the MAC address of the Q-SYS Core is listed in the **GM Identity** field, within AMS, by performing the following steps:

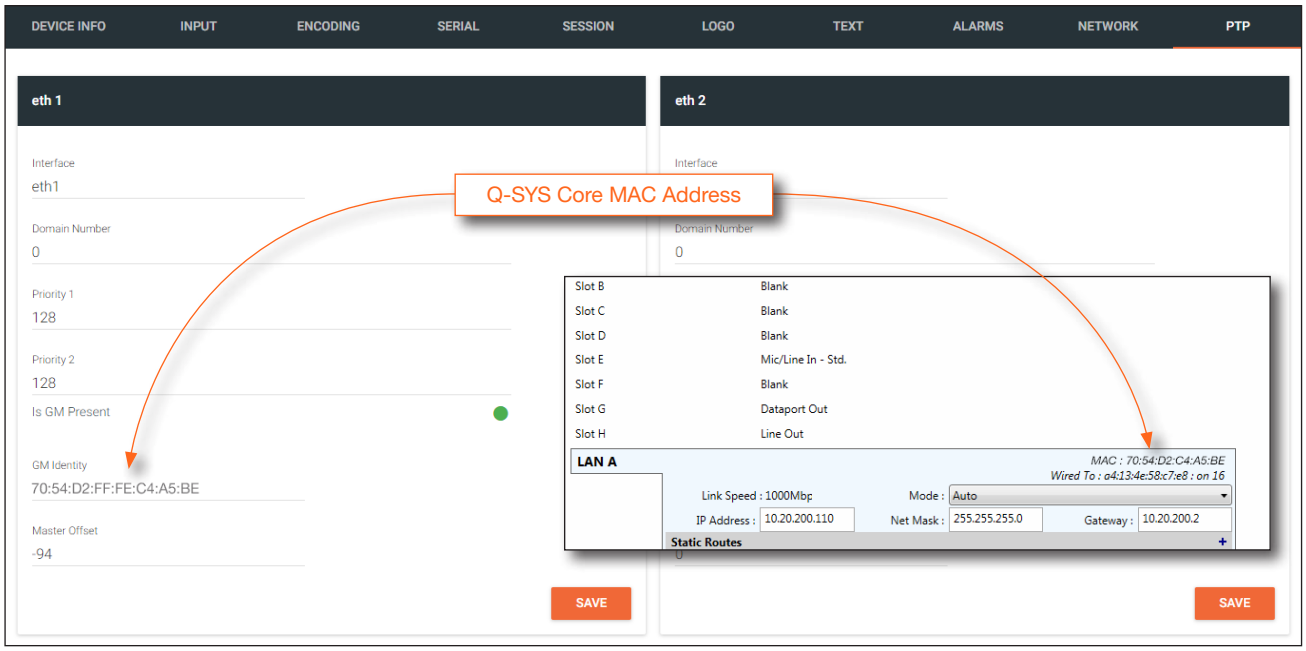
    a. Click **Tools** > **Show Q-SYS Configurator...**

    b. Click the core unit, under the **Cores Pane**. In this example, the Core 250i is selected.

    c. Locate the MAC address of the Q-SYS Core in the pane, to the right.



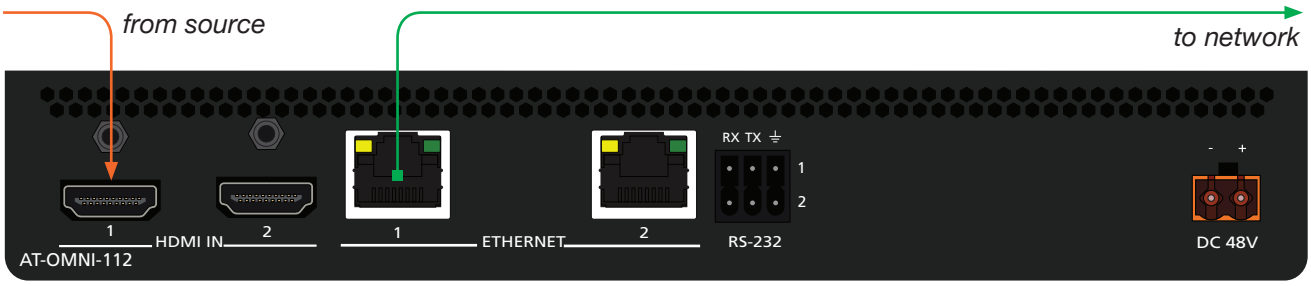
    d. Compare this MAC address with the MAC address in the **GM Identity** field, within AMS. These MAC addresses should be the same. If they are not, then another device on the network, which has a has a lower PTP priority, is being used as the GM. Refer to the illustration on the next page.



Creating the AES67 Session

This next section covers creating the AES67 Session on the OmniStream encoder. A *session* is a class-D multicast IP address that is assigned to a stream.

1. Verify that a source is connected to the HDMI input of the OmniStream encoder. For this example, the same laptop that is running the Q-SYS Designer is connected to a dual-channel encoder (AT-OMNI-112) on **HDMI IN 1**.
2. Click **SESSION** in the top menu bar.
3. Scroll down and locate **Session 3**. For this tutorial, **Session 3** is being used. However, another session, such as **Session 1**, could also be selected. Refer to the OmniStream User Manual for more information on sessions.
4. Click the **Interface** drop-down list and select the correct interface: **eth1** or **eth2**. In this example, an Ethernet cable is connected from the **ETHERNET 1** port on the encoder to the network. Therefore, **eth1** is selected.



5. Click the **SAP** toggle switch to enable it. When enabled, the **SAP** toggle switch will be green. ***This feature must be enabled to allow the device to announce itself on the network***. Refer to the illustration on the next page.

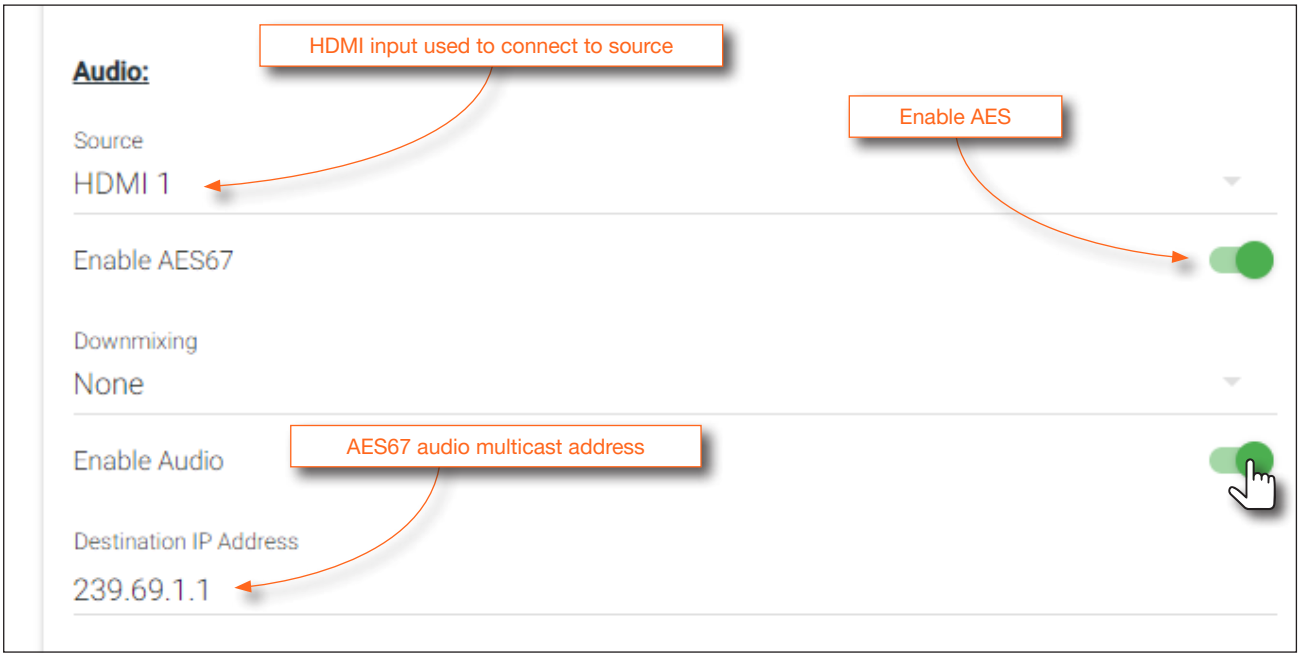
6. Enter the stream name in the **Name** field. In this example, “laptop” is used. This name will be used to identify the AES67 stream, within the Q-SYS Designer.

7. Click the **Source** drop-down list and select the HDMI input which is used for the audio source. In step 1 (on the previous page), the source was connected to the **HDMI IN 1** port on the encoder. Therefore, **HDMI 1** is selected as the source.

8. Continue scrolling down to the **Audio** section, and click the **Enable AES67** toggle switch. When enabled, the toggle switch will be green.

9. Click the **Enable Audio** toggle switch to enable it. When enabled, the toggle switch will be green.

10. Enter the destination multicast IP address for the audio in the **Destination IP Address** field.



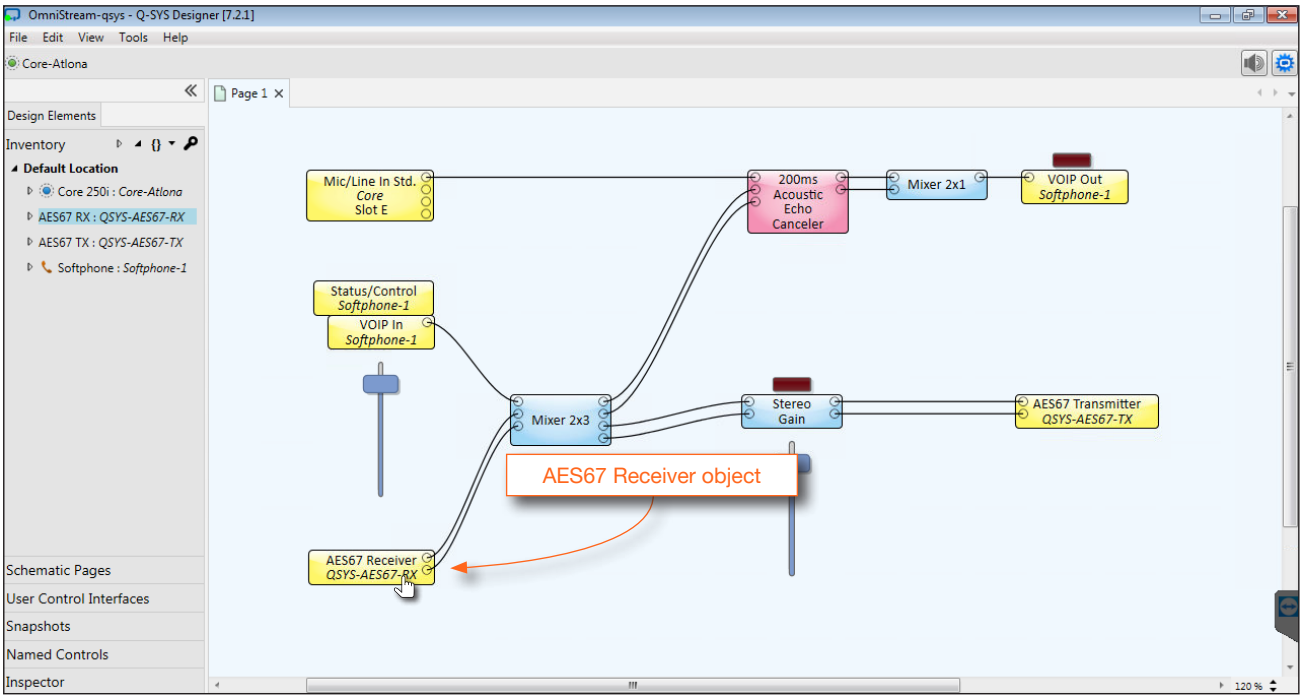
11. Click the **SAVE** button, at the bottom of the **Session 3** window group.

Linking the Receiver Object

The final step is to link the receiver object, within Q-SYS Designer, to the AES67 stream from the OmniStream encoder.

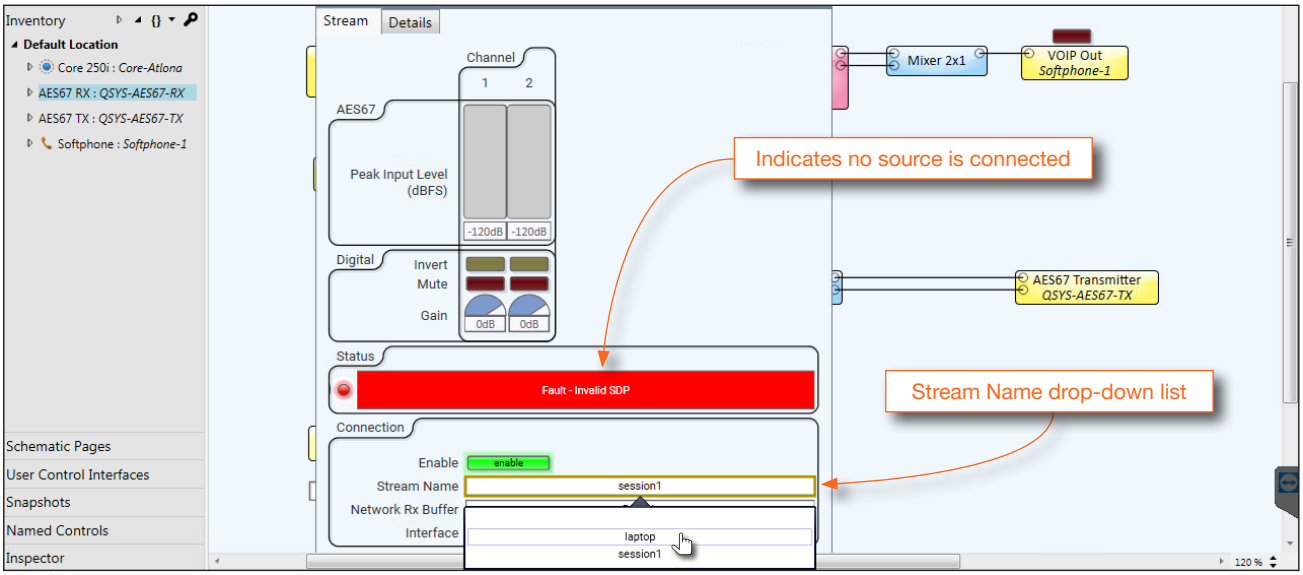
1. Return to the Q-SYS Designer. Under the **Design Elements** pane, the AES67 receiver (RX) component may be highlighted in red, indicating that no audio stream has been assigned to the receiver object.

2. Double-click the **AES67 Receiver** object, in the schematic. The AES67 Receiver object properties window will be displayed.

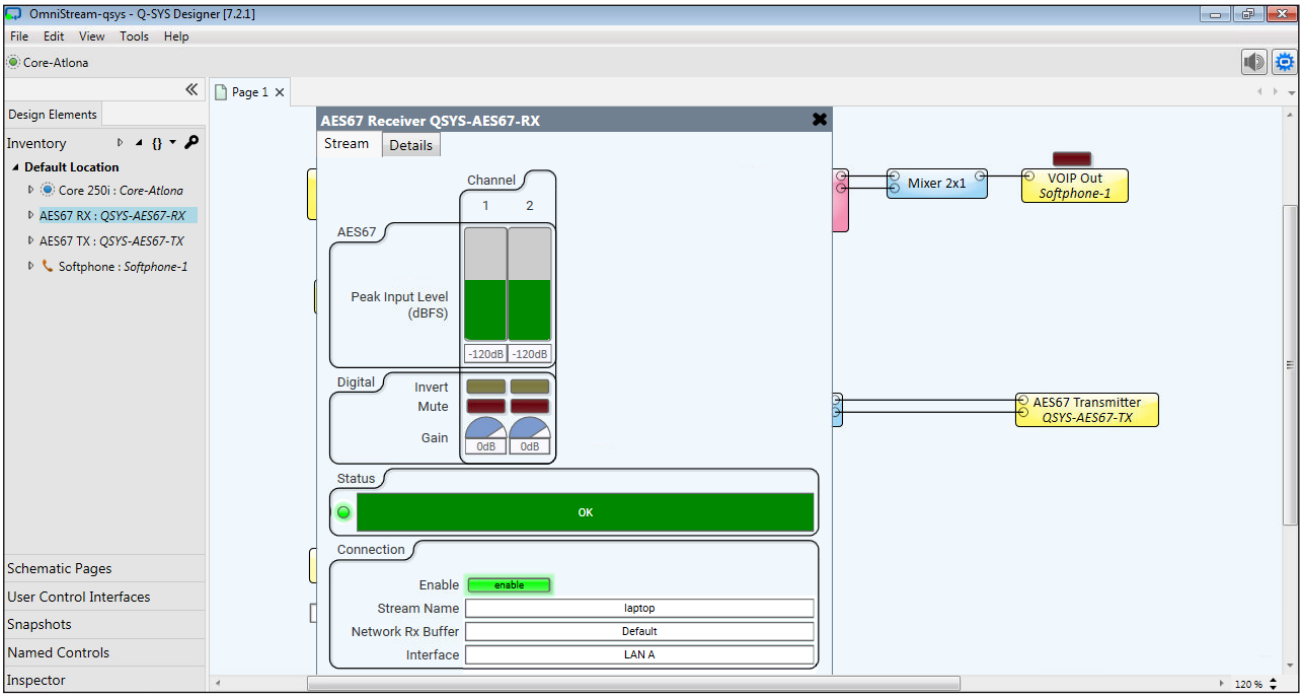


3. Click the **Stream Name** drop-down list and select the “laptop”. This is the name of the stream which was assigned in the OmniStream encoder, within AMS. Note that if additional OmniStream AES67 session streams were created, they would be available in this drop-down list.

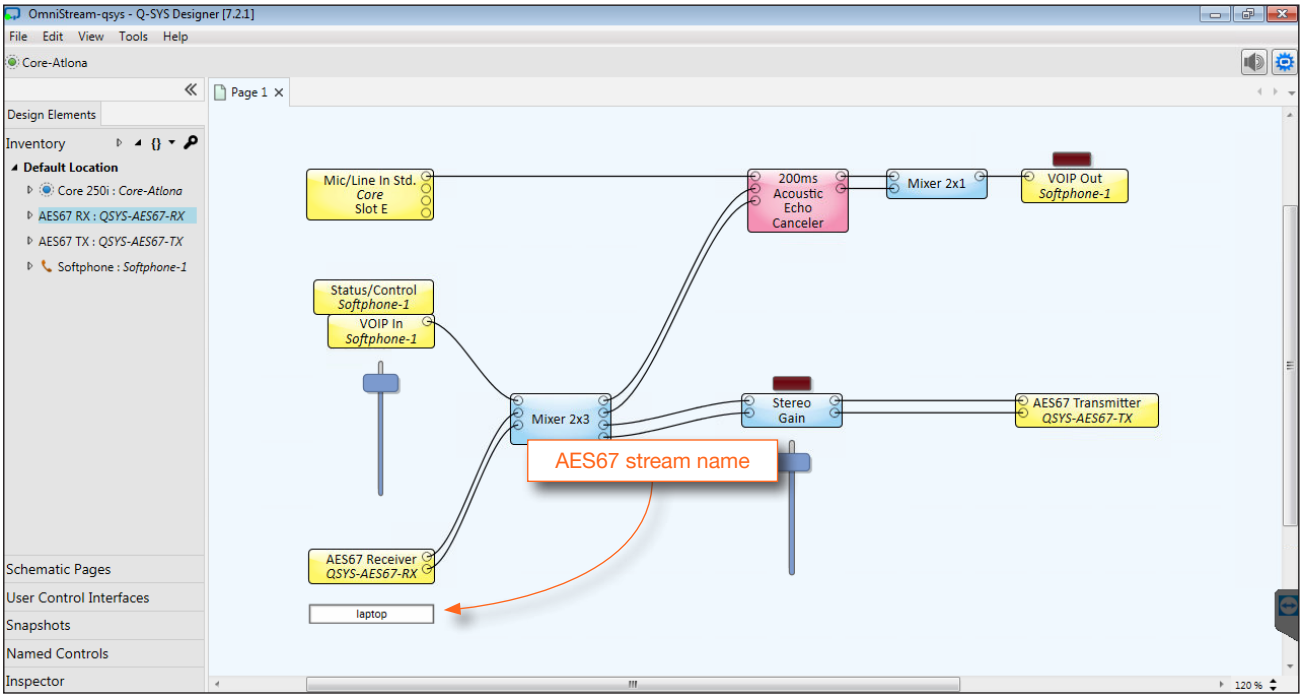
   Note the message in the Status window: *Fault - Invalid SDP*. This indicates that no source is connected. Always make sure that a valid stream is selected, from the **Stream Name** drop-down list.



4. Verify the AES67 audio stream, between the OmniStream Encoder and Q-SYS, by opening an audio player on the laptop and selecting an audio file. The **Peak Input Level** indicators should show that audio is now being received from the OmniStream encoder to the Q-SYS Core.



5. Close the Receiver object property window. This design shows the AES67 stream name, below the AES67 Receiver object. Note that not all designs will display the AES67 stream below the AES67 Receiver object.



© 2019 Atlona Inc. All rights reserved. “Atlona” and the Atlona logo are registered trademarks of Atlona Inc. All other brand names and trademarks or registered trademarks are the property of their respective owners. Pricing, specifications and availability subject to change without notice. Actual products, product images, and online product images may vary from images shown here.