



Connecting the SOFIA SiteStreamer+™ to a Livewire Network via AES67

THIS PAPER WILL GIVE A BASIC OVERVIEW OF CONNECTING
THE INOVONICS SOFIA PRODUCT LINE TO AN AXIA xNODE

Introduction

Inovonics' line of SOFIA SiteStreamers+ implement Audinate's Dante® protocol for AoIP output. Dante includes AES67 compatibility, which allows Dante-enabled devices to send audio to any other AoIP device capable of receiving an AES67 stream. Although AES67 allows compatibility between different AoIP devices, Dante devices do not enable AES67 compatible streams by default, and AES67 in and of itself does not provide for any mechanism of discovering those streams once they are enabled. Multiple steps are required to first enable the AES67 stream (or "flow" in Dante terminology) and then subscribe to that AES67 multicast stream on the AES67 device.

Assumptions

This document is not a networking or an AoIP primer. It assumes some familiarity with the basic concepts of IP networking and AoIP, such as multicast IP addresses and configuring IP addresses on various Ethernet interfaces. This document also assumes you have already connected the SOFIA AoIP Ethernet interface to your existing AoIP network, and the other Ethernet port to a management network or standalone computer for configuration through a web browser. ***You will NOT be able to connect to the SOFIA's internal web interface via the Dante AoIP Ethernet port.***

Enabling Dante on the SOFIA

Once you have made physical Ethernet connections, the next step in connecting the SOFIA to an existing Dante or Livewire/AES67 network is to enable Dante on the SOFIA through the SOFIA's own web GUI. Once this is done, all other settings must be done in "Dante Controller" (available for free from

www.audinate.com. Unfortunately, the front panel and web GUI controls for Dante do not function consistently at this time. This is due to limitations in the Dante SDK which should be corrected in a forthcoming firmware version as soon as Audinate makes the new Dante SDK available to implement.

Dante Networks and IP Addressing

By default, Dante devices come with DHCP enabled. If your AoIP network will provide DHCP addresses, the SOFIA will attempt to request an IP address. This IP address can be displayed through the front panel on the SOFIA (though it cannot be set due to the limitations mentioned earlier). If, however, there is no DHCP server, Dante devices (like most computers) will "self-assign" an IP address in the 169.x.x.x block of IP addresses. Many small Dante networks operate just fine like this, but it is recommended that you either use DHCP with MAC-address-based assignments or assign static IP addresses to devices. The IP address of the management interface on the SOFIA can also be verified (or changed) through the front panel. So long as the SOFIA and computer running Dante Controller are on the same subnet, they should be able to see each other.

Using "Dante Controller" to Configure the SOFIA AoIP Settings

Once you have downloaded and installed the "Dante Controller" software to a computer on the same AoIP network as the SOFIA, you can manage its AoIP parameters and start an AES67 stream (called a "Flow" in Dante). ***Note that the Dante Controller will NOT detect the SOFIA on a network via its management network interface...only via the AoIP interface.***

Dante Controller allows a number of parameters to be changed on devices (including the IP address, sample rate, and various other Dante-related settings such as clocking). The parameters we are most interested in, however, are the AES67 flow settings. The Dante Controller software will prompt you at initial

startup to choose a network interface for Dante traffic. This should be the interface connected to your AoIP network.

For details on other parameters or configuring the Dante Controller software in general, refer to the documentation provided with the Dante Controller software.

Dante Setup Screens

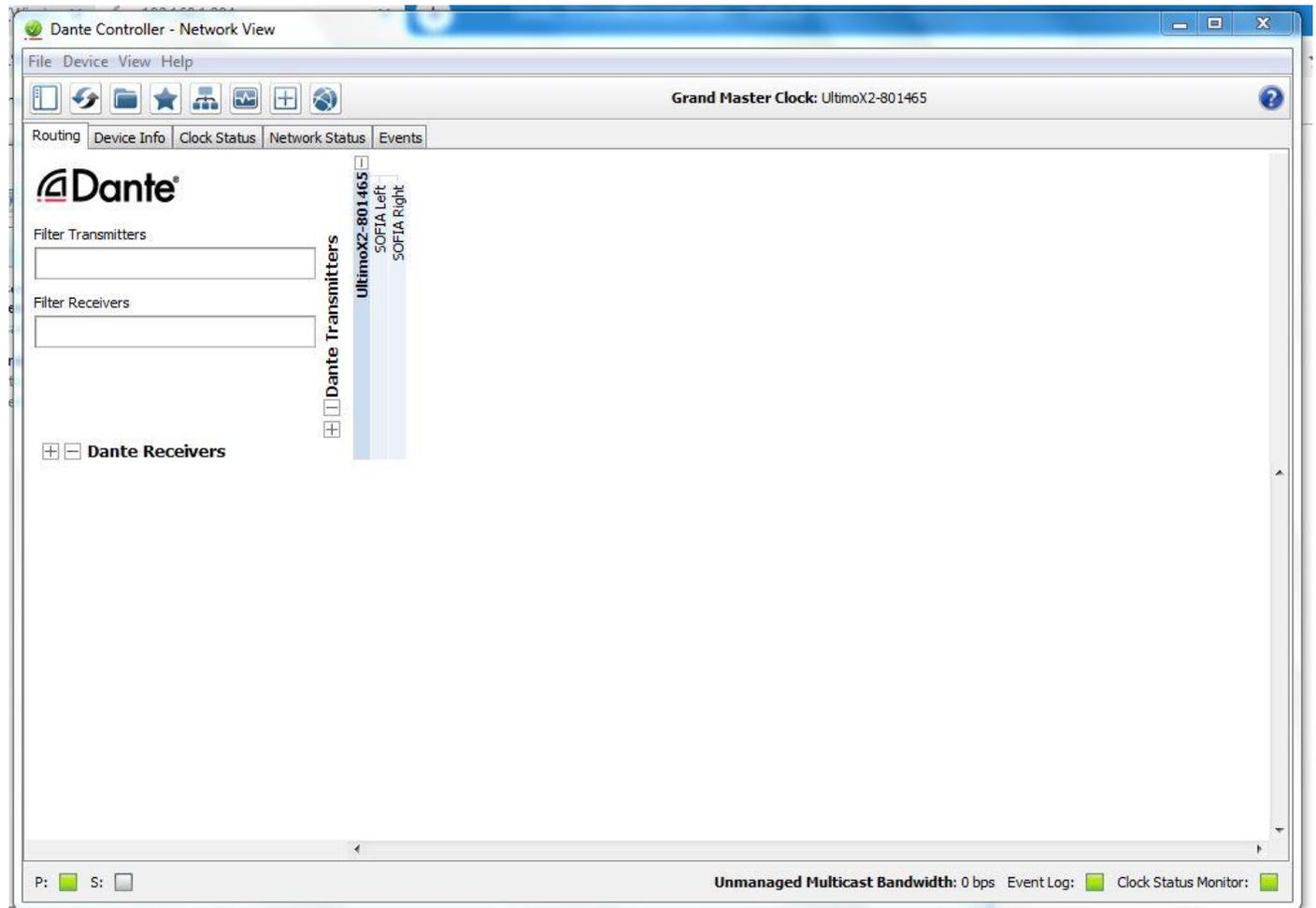


Figure 1

Figure 1 is the “Routing” screen in Dante Controller. If you are familiar with crosspoint router software, such as Axia Pathfinder, this is essentially the same approach. The device in this case is named “UltimoX2-801465” which is the default name of the Dante card in this particular device. To more easily locate the device on a Dante network, this name can be changed in Dante Controller. Other Dante devices added to the network will appear in Dante Controller as well. For now, however, we have a single SOFIA SiteStream-

er+. The outputs were named “SOFIA Left” and “SOFIA Right” via the SOFIA web interface, though they can also be changed in Dante Controller.

Double-click on the device name to open the “Device View” for that particular device (Figure 2). This is where we will create the AES67 “Transmit Flow”. We will also want to enable AES67 on the “AES67 Config” tab. The IP address of the Dante interface can be modified on the “Network Config” tab.

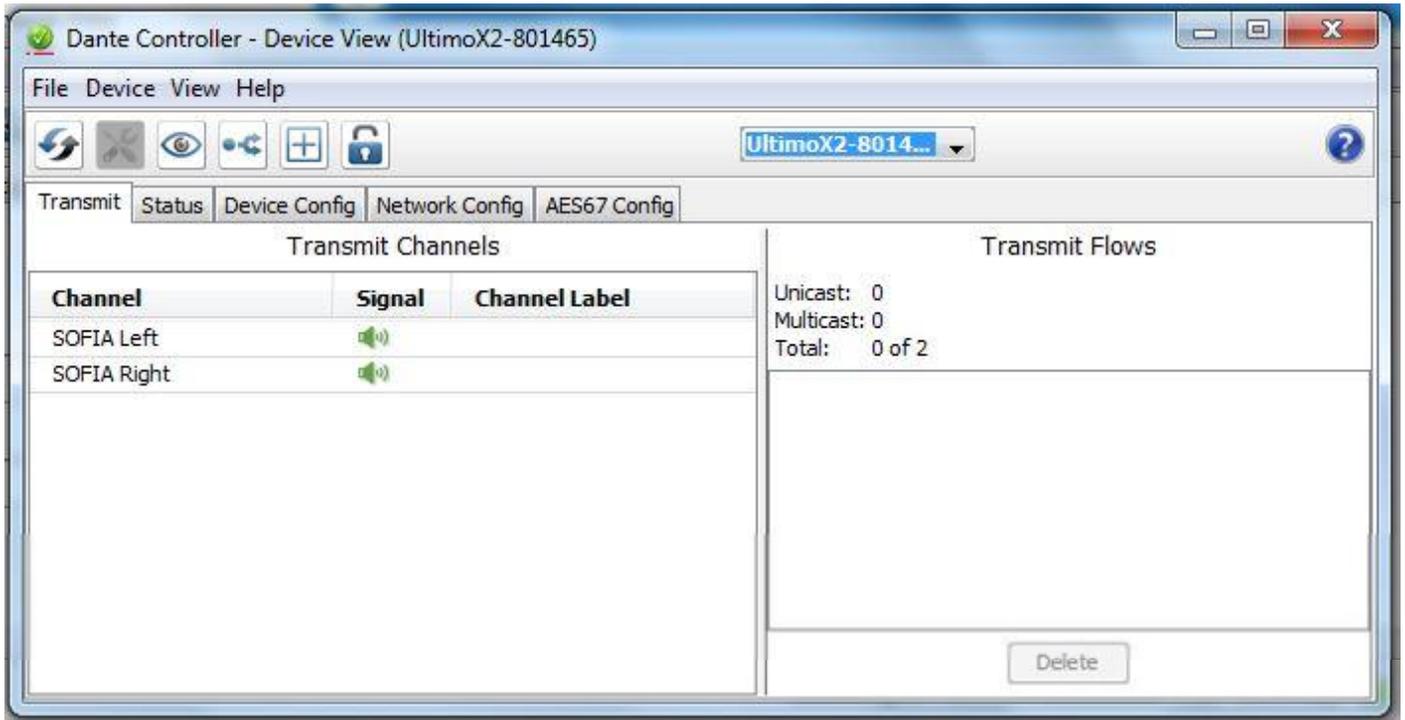


Figure 2

Click the “+” button to Create a Multicast Flow (Figure 3, below). Select “AES67 Flow”

and both audio channels. Click “Create” to accept the new flow and close the window.

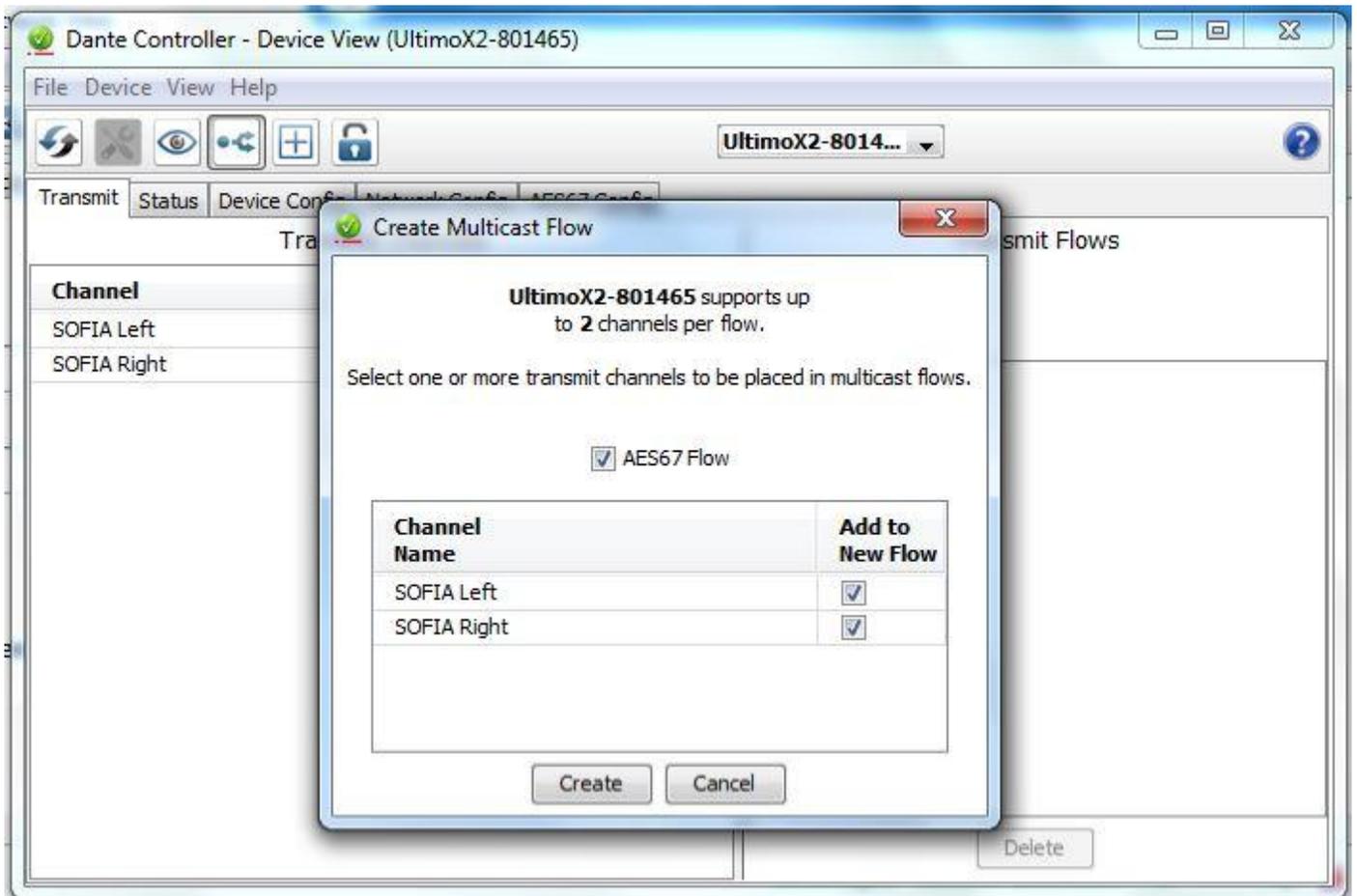


Figure 3

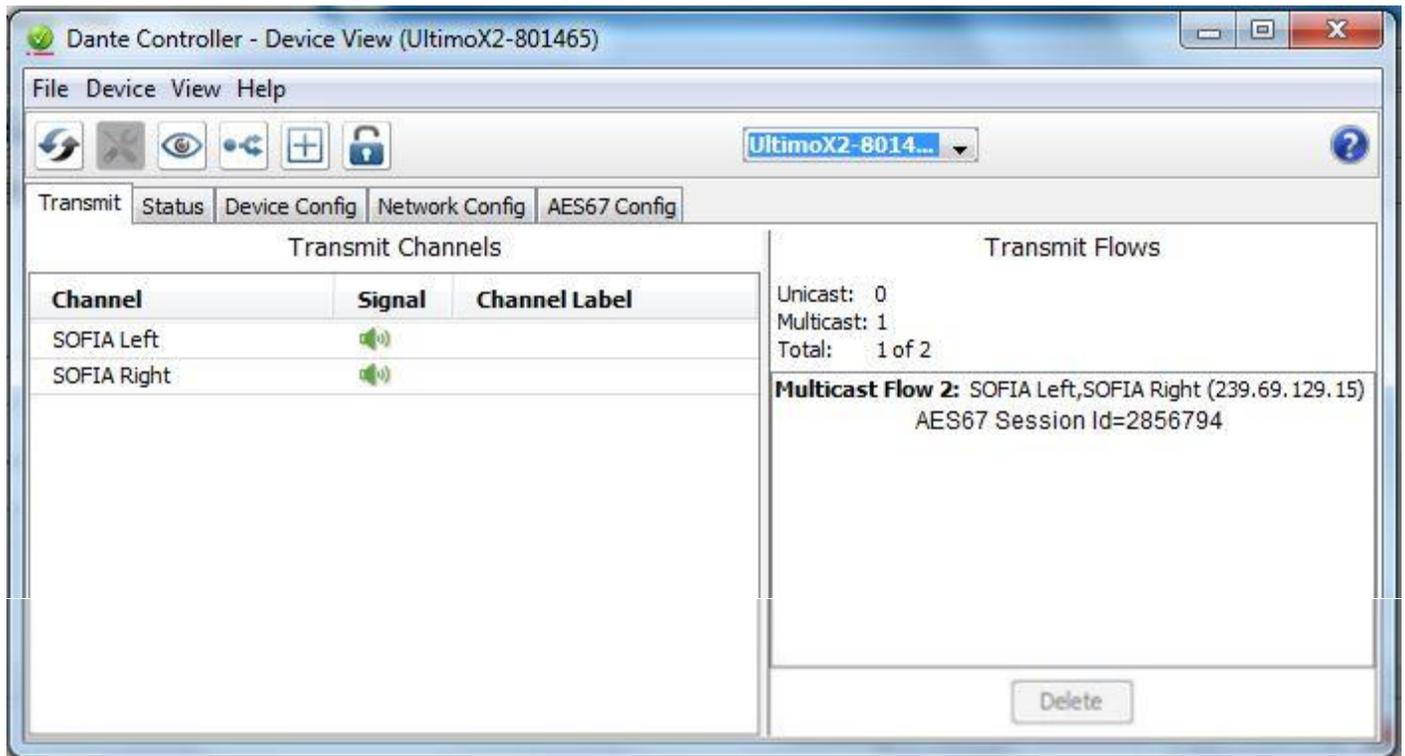


Figure 4

The new AES67 multicast flow will appear in the “Transmit Flows” section of the window(Figure 4), along with its multicast IP address. This is the IP address we will need to put into the “Destinations” section for the desired output on our Axia xNode.

While AES67 does not directly support session discovery in and of itself, this is generally implemented via “SDP” or “Session Description Protocol” to tell the receiving AES67 device what format to expect and where to expect it.

Once you enter this multicast IP address in the desired xNode destination, it should begin receiving the audio from this AES67 stream.

Do NOT delete this flow via the SOFIA web interface, or you will need to reconfigure it in Dante Controller. The multicast IP will change when the new flow is created, so you will need to modify it in the xNode as well.

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