



CL/QL series with Aviom Personal Mixing System

1st Edition: July 2014



AVIOM®

Dante™

This guide features a system setup example that shows how to integrate Aviom personal mixers into a Dante network that is based on Yamaha CL/QL series digital mixing consoles.

Conventionally, Aviom personal mixers might be integrated into a Yamaha mixing console system via dedicated cards. However, by integrating personal mixers into a Dante network (the basic infrastructure for CL/QL series consoles), you will be able to configure a personal monitoring environment that offers greater flexibility and easier setup.

Table of Contents

| | Page |
|--|-------------|
| Introduction | 3 |
| Required Devices | 3 |
| Connections | 4 |
| Dante latency | 4 |
| Setting up the Aviom Products | 5 |
| DEFAULT/CUSTOM setting on the A360 | 5 |
| Setting a stereo link on the D800-Dante | 6 |
| Setting the D800-Dante ports | 6 |
| Setting up in Dante Controller | 7 |
| Setting up the CL/QL Series Console | 8 |
| DANTE SETUP | 8 |
| DANTE DEVICE MOUNT | 8 |
| DANTE PATCH | 9 |

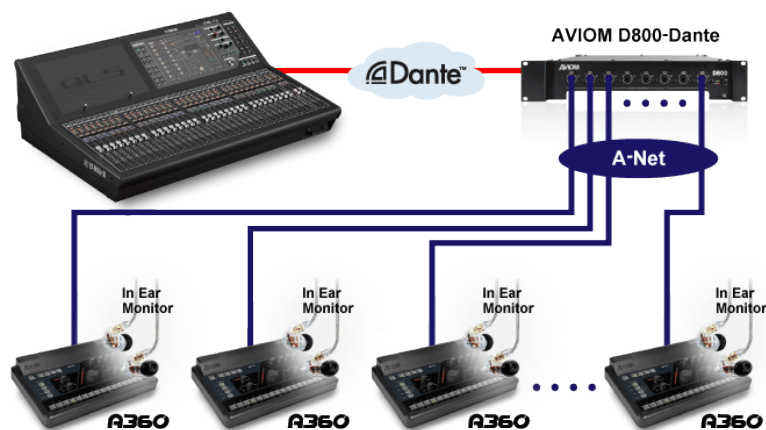
Introduction

The following system example employs Dante media network technology, which has been adopted by Yamaha CL/QL series mixing consoles. Connecting an Aviom D800-Dante to the Dante network will function as a bridge between the Yamaha system and the Aviom system, which enables you to easily configure a personal mixing system.

This guide is also designed to bridge the gap between the Yamaha digital mixing console and the Aviom personal mixing system. It explains the basic setup for the Yamaha CL/QL series mixing console, the Dante network, and the Aviom D800.

For more information on Aviom products, please visit the following website or refer to the user's manual for the products of interest.

www.aviom.com



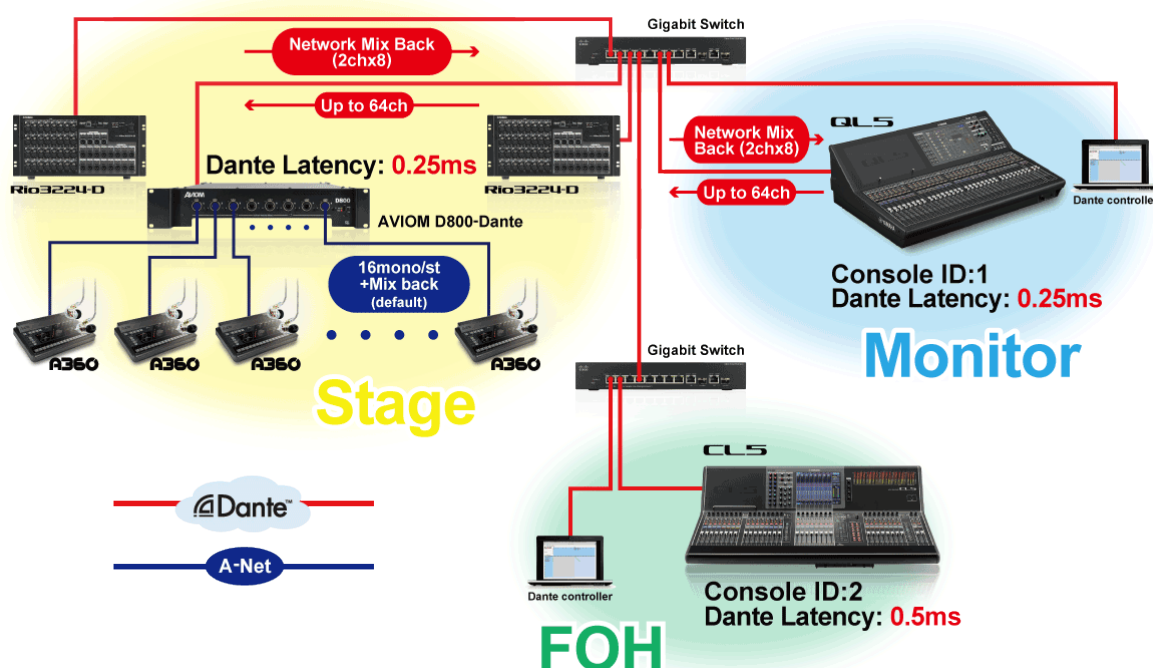
Connecting the personal mixing system via Dante

Required Devices

1. Yamaha CL/QL series digital mixing consoles (CL5/CL3/CL1, QL5/QL1)
2. Dante-enabled I/O racks, if necessary (such as the Yamaha Rio3224-D or Rio1608-D)
3. Aviom D800-Dante A-Net distributor
4. Aviom A360 personal mixers
5. CAT5e or CAT6 network cables
6. Computer running Dante Controller software (free to download from www.audinate.com)

Connections

The example in this guide assumes that the CL/QL series mixing system (excluding the personal mixers) has already been set up. At this point, you will just need to connect the Aviom D800-Dante distributor and the Aviom A360 personal mixers using CAT5e network cables. The Dante network that includes CL/QL/R series and the Aviom D800-Dante can function in either a simple daisy-chain connection or as a redundant system that utilizes network switches. (The secondary connection is omitted from the system diagram below).



Typical CL/QL series + Aviom system via redundant connection

Dante latency

In-ear monitor systems require relatively low latency. In general, a system latency of approximately 5ms or higher can affect a player's performance. In the system example above, to minimize latency in the monitor system, the Dante network latency is set to the minimum of 0.25ms (0.5ms sum of both directions) on the monitoring console and Aviom D800-Dante. On the FOH console (with an extra gigabit switch connected), the Dante network latency is set to 0.5ms (1ms sum of both directions). In this way, the monitor system achieves a system latency of less than 3ms while the FOH system is less than 3.5ms.

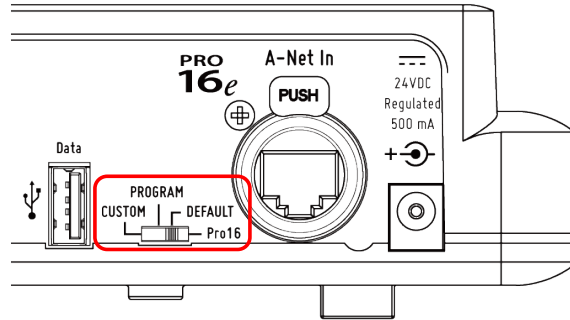
Notes:

- The Dante latency setting on the CL/QL series console with Console ID "1" will be applied automatically to the Dante latency setting on the R series units.
- If the transmitting and receiving devices have different latency settings, the higher (longer) setting will be applied to that particular signal flow.

Setting up the Aviom Products

This guide explains how to set up a system that employs Aviom A360 personal mixers. If you plan to connect other Aviom products, such as Aviom A16II, please refer to the documentation for the corresponding Aviom product.

DEFAULT/CUSTOM setting on the A360



Selecting the DEFAULT option on the rear panel of the Aviom A360 enables you to easily route Dante inputs 1-32 to 16 mono/stereo channels on the personal mixers.

If you wish to customize the channel assignment for each personal mixer, select the CUSTOM option. In this case, be sure to use A360 Channel Manager software to create an individual channel assignment for each personal mixer in advance.

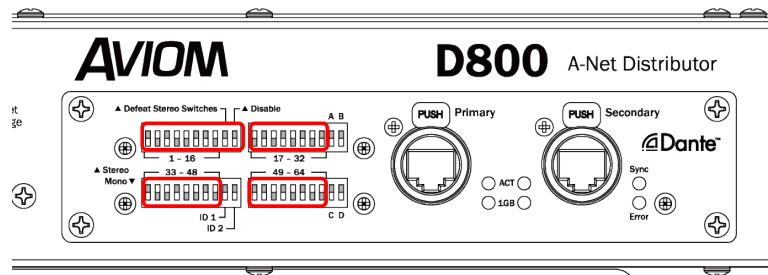
Channel Example with Default A360

| Ch | Default A360 | Console Patch Example |
|----|----------------------|------------------------|
| 1 | Lead Vocal | Ch to Dante 1 |
| 2 | Chorus | Ch to Dante 3 |
| 3 | Gtr | Ch to Dante 5 |
| 4 | Keys Mix (stereo) | MIX 7/8 to Dante 7/8 |
| 5 | Horns Mix (stereo) | MIX 3/4 to Dante 9/10 |
| 6 | Drums Mix (stereo) | MIX 1/2 to Dante 11/12 |
| 7 | Perc Mix (stereo) | MIX 5/6 to Dante 13/14 |
| 8 | Bass | Ch to Dante 15 |
| 9 | Tracks/Loop (stereo) | Ch to Dante 17/18 |
| 10 | - | |
| 11 | - | |
| 12 | - | |
| 13 | - | |
| 14 | - | |
| 15 | - | |
| 16 | Click | Ch to Dante 31 |

Channel Examples with Customized A360

| Ch | Horns' A360s | Backline A360s |
|----|----------------------|----------------------|
| 1 | Lead Vocal | Lead Vocal |
| 2 | Chorus | Chorus |
| 3 | Horn 1 | Drums OH (stereo) |
| 4 | Horn 2 | Kick |
| 5 | Horn 3 | Snare |
| 6 | Horn 4 | Hi Hat |
| 7 | Gtr | Gtr |
| 8 | Keys Mix (stereo) | Keys Mix (stereo) |
| 9 | Drums Mix (stereo) | Horns Mix (stereo) |
| 10 | Perc Mix (stereo) | Perc Mix (stereo) |
| 11 | Bass | Bass |
| 12 | Tracks/Loop (stereo) | Tracks/Loop (stereo) |
| 13 | - | - |
| 14 | - | - |
| 15 | - | - |
| 16 | - | Click |

Setting a stereo link on the D800-Dante

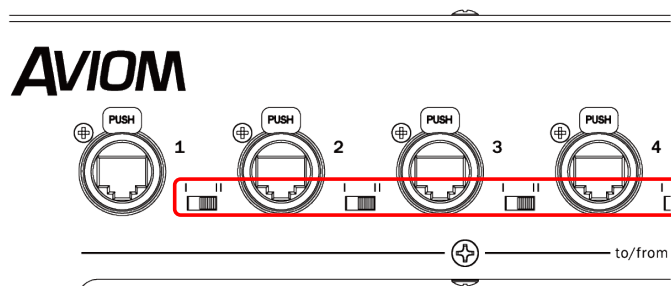


Use the DIP switches on the rear panel of the Aviom D800-Dante to select whether each channel is mono or stereo. Although each of the Dante input channels is monaural, you can set up A360 stereo channels using two adjacent (odd/even-numbered) Dante input channels. (Dante input to A360 channel assignments, aside from the Mono/Stereo selection, are fixed.) A360 mono channels will ignore the corresponding even-numbered Dante channels. To enable these settings, be sure to set DIP switches 9 and 10 (in the upper-left switch block) to the down position. See the table below for D800-Dante DIP switch settings.

| DIP Switch | Down | Up |
|------------|---|---|
| 1 | Mono (Dante 1-> A360 1) | Stereo (Dante 1/2-> A360 1) |
| 2 | Mono (Dante 3-> A360 2) | Stereo (Dante 3/4-> A360 2) |
| 3 | Mono (Dante 5-> A360 3) | Stereo (Dante 5/6-> A360 3) |
| : | : | : |
| 8 | Mono (Dante 15-> A360 8) | Stereo (Dante 15/16-> A360 8) |
| 9 | Enables the stereo link setting. | Disables the stereo link setting. (All patches will be mono.) |
| 10 | Enables the Dante input. | Enables the A-Net Bridge input. |

In the same way, use DIP switches (1-8) in the other three switch blocks to set up stereo links for Dante inputs 17-32, 33-48, and 49-64 (inputs 33 and higher are for the A360 CUSTOM setting only).

Setting the D800-Dante ports



The mode switches located on the front panel of the Aviom D800-Dante must be set to II (bidirectional mode) for the ports to which the Aviom A360s have been connected. In this way, you can return the stereo mix signals on the A360 back to the Dante network (Network Mix Back function). Then each A360's mix can be transmitted to a Rio3224-D output, and to a wireless In-Ear Monitoring system for example. Or each

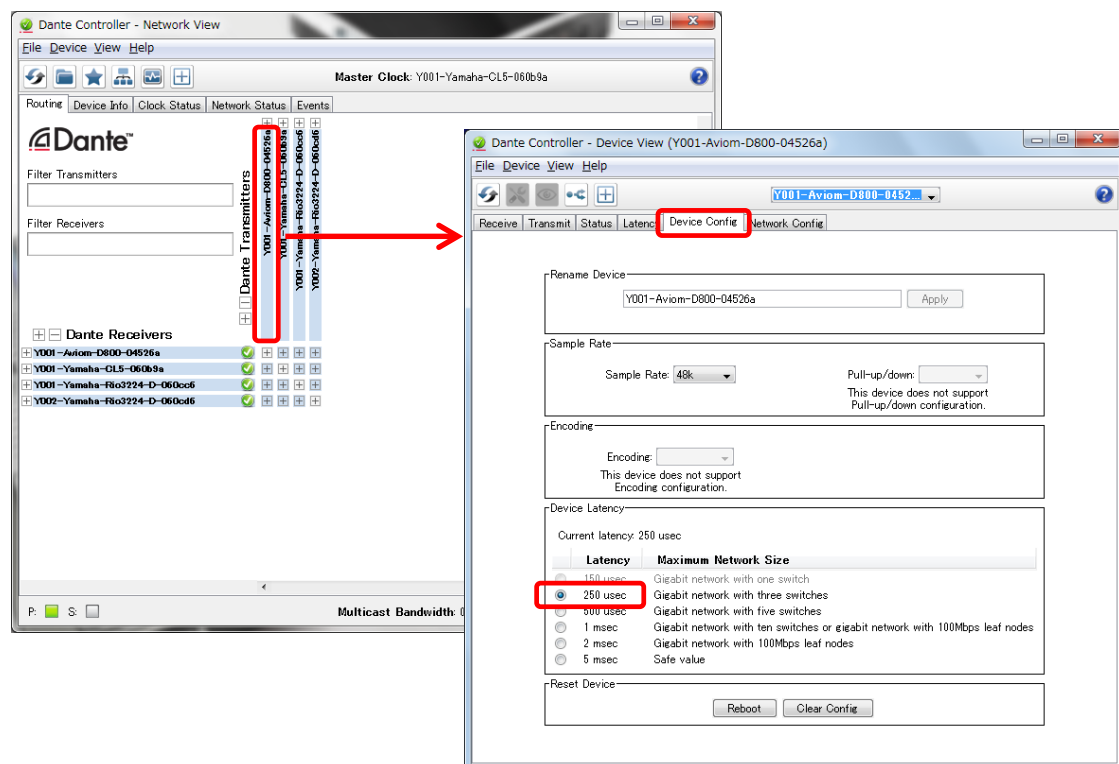
mix can be monitored by a sound engineer at the CL/QL monitor console. You will be unable to edit the Aviom mix parameters from the console, though the monitor source signals can be adjusted while auditioning the mix.

| D800 Port No. | Network Mix Back Channels (L/R) |
|---------------|---------------------------------|
| 1 | 1/2 |
| 2 | 3/4 |
| : | : |
| 8 | 15/16 |

Setting up in Dante Controller

You can use Dante Controller software to set up the routing between devices on the Dante network. This guide explains only how to change the Dante latency setting: you can adjust the routing from the CL/QL series console.

Connect your PC to the Dante network and start Dante Controller. It will detect the Dante devices on the network and show them on the Routing page in the Main screen. Double-click the device name to open the Device View window, then use the Device Config tab to adjust the Dante Latency setting (the default is 1ms). If necessary, use the Network Config tab to set Dante Redundancy to "Switched" (for a daisy-chain connection). The default setting is Redundant.



Setting up the CL/QL Series Console

This guide uses a CL/QL series as a monitor console. However, you can also configure a similar personal mixing system using a Yamaha PM5D or M7CL console with the Dante-MY16-AUD card attached, as long as you set up the patches via Dante Controller.

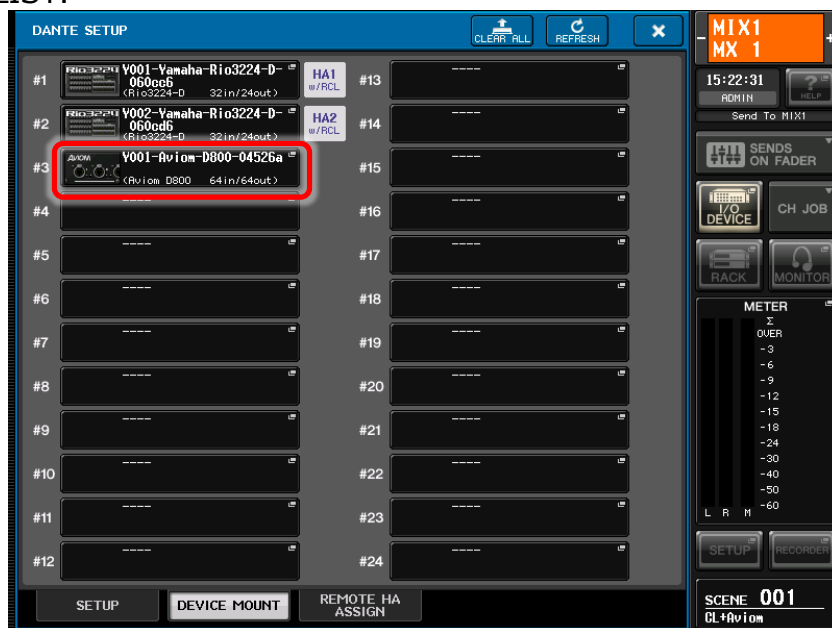
DANTE SETUP

Set the LATENCY and other parameters as needed on the SETUP page (SETUP -> DANTE SETUP -> SETUP).



DANTE DEVICE MOUNT

To change the Dante patch between the console and a Dante device, you must first mount the device. To mount the Aviom D800-Dante, touch an available slot on the DEVICE MOUNT page, and search for it in the ONLINE DEVICE LIST.



DANTE PATCH

You can set up all Dante patches on the DANTE PATCH page (I/O DEVICE -> DANTE PATCH).



(DANTE) OUTPUT PORT SETUP

This window enables you to patch signals to the Dante output ports. Make sure that all channels needed in the Aviom A360 units are patched here. A CL console’s default setting already has Mix, Matrix and Master buses assigned to Dante outputs 1-40. Dante outputs 41-64 are available for any additional Direct Outputs that need to be sent to the Aviom devices. If Direct Outputs are patched, remember to enable them in the SELECTED CHANNEL VIEW, and set the preferred PRE or POST FADER position.

Note:

- A QL console’s default DANTE OUTPUT PORT PATCH may need to be further edited, due to a full default setting.

I/O DEVICE OUTPUT PATCH

This window enables you to make the Dante patch from the console outputs to the Aviom D800-Dante outputs. Remember that even-numbered outputs should be left blank when mono channels are set by

the D800-Dante (follow the table on page 6). The patch of Outputs 1-32 determines the default A360 channel list.

DANTE INPUT PATCH

This window enables you to patch Network Mix Back signals (1-16) from the Aviom D800-Dante to any available Dante input ports. You can patch these Dante inputs to some spare input channels to monitor the stereo mix signals on the console. However, this may not be possible if all the Dante inputs are already being used for other devices (such as Rio3224-D).

Now you are ready to experience the most versatile and flexible personal mixing system, linked with your favorite digital mixing consoles and audio network. Enjoy mixing and making music!