

Connecting a SONOSAX SX-AD8+ to a Yamaha DM3 over Dante

Eight channels from the SX-AD8+ (or more with multiple SX-AD8+) to the DM3 console over a single network cable.

Item	Detail
Applies to	SONOSAX SX-AD8+ fitted with the Dante option board Yamaha DM3 (Dante-equipped model)
Software used	Audinate Dante Controller (Windows / macOS)

1. Overview

The SX-AD8+ is an eight-channel microphone/line preamplifier with high-performance A/D conversion. When it is fitted with the Dante option board, its eight analog inputs become eight Dante transmit channels, so the whole unit can be placed on stage and connected to a Yamaha DM3 console with a single Cat5e/Cat6 cable.

The DM3 (Dante-equipped model) offers 16 Dante inputs and 16 Dante outputs, so one SX-AD8+ occupies the first eight of them and a second unit can fill the remaining eight.

2. What you need

Item	Notes
SONOSAX SX-AD8+ with Dante option board	Without the option board the unit provides AES3 outputs only and cannot join a Dante network.
Yamaha DM3 (Dante model)	The DM3 Standard has no Dante port. Check the rear panel for the two Dante RJ45 connectors (PRIMARY / SECONDARY).
Cat5e or Cat6 cables	Keep runs under 100 m.
Gigabit network switch	Required to route the Dante Flux to the DM3 and to use more than one device (computer, recorder, second preamp) on the network.
Computer with Dante Controller	Download from Audinate. Needed for the initial routing, unless you use the DM3 DANTE PATCH screen.
PoE source (optional)	The SX-AD8+ Dante board accepts IEEE 802.3af Class 1 PoE, so the unit can be powered by the network cable instead of its DC input.

2.1 Limitations to be aware of

- The DM3 cannot remote-control the SONOSAX AD8+ for now. Gain, phantom power, phase and LF cut are always set on the SX-AD8+ itself or via the SX-Controller app.

3. Cabling

1. Connect the SX-AD8+, the DM3 PRIMARY port and the computer to the same gigabit switch. Note: Dante controller is not required to root the channels.
2. Use a switch that is left in its factory (unmanaged) state, or a managed switch with EEE (Energy Efficient Ethernet / “green” mode) disabled on all Dante ports.

4. DM3 setup

All the pages used in this guide are reached from the SETUP screen: touch the gear icon in the top bar of the DM3 touchscreen.

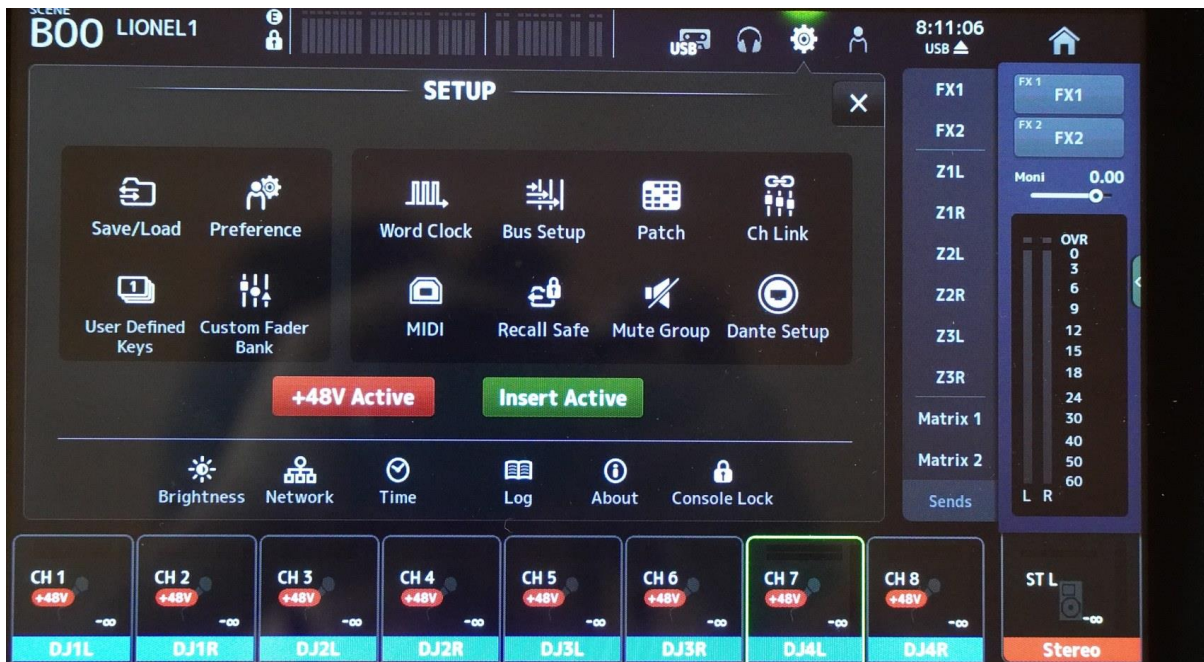


Figure 1 – The DM3 SETUP screen. Word Clock, Patch and Dante Setup are the three pages used in this procedure.

4.1 Word clock

1. Touch Word Clock.
2. Set the leader clock frequency to 48 kHz (or 96 kHz if the whole system is configured for it).
3. Close the page.

4.2 Dante Setup

Touch Dante Setup, then the Setup button, and check the following items.

Parameter	Setting	Comment
Unit ID	Y000 – Y01F, unique on the network	The Unit ID becomes part of the Dante device name, e.g. Y001-Yamaha-DM3-a34e9c as shown in Figure 2.
Secondary Port	Daisy Chain (small systems) or Redundant	Redundant requires a second, physically separate network. A restart is required after changing this setting.
Latency	1 ms	Increase if audio drops out on a larger network.
SYSTEM / SYNC	Both green	A warning icon here means the console has not locked to the Dante clock – see section 9.

Note Unit ID and Secondary Port changes only take effect after touching Apply and restarting the console. If the console is enrolled in a Dante Domain Manager domain, or if Device Lock has been enabled from Dante Controller, these parameters are greyed out.

5.Connecting the SX-AD8+ using Dante Controller

Dante Controller shows the network as a matrix: transmitters (sources) in columns, receivers (destinations) in rows. A subscription is created by clicking the intersection of a transmit channel and a receive channel.

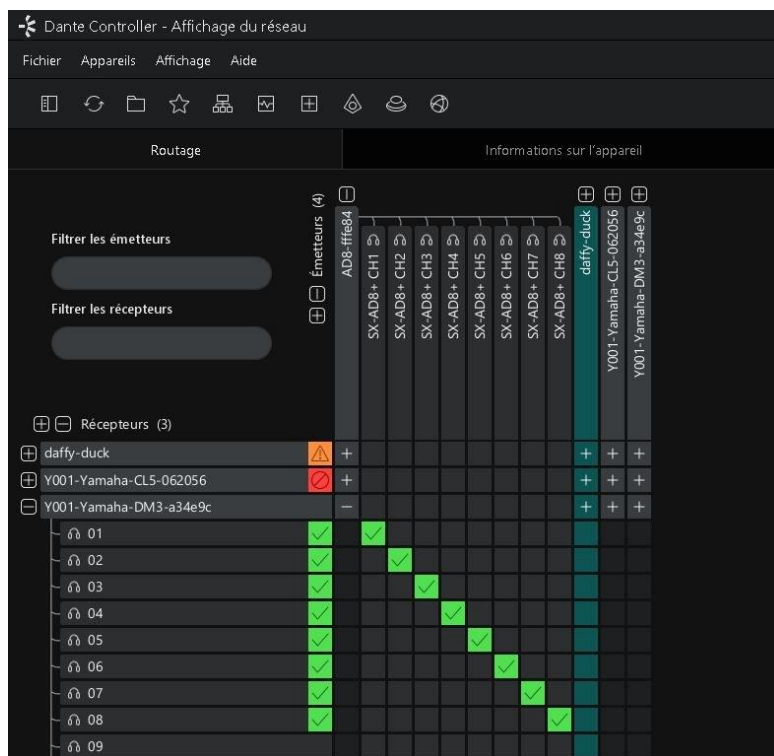


Figure 2 – Dante Controller, Routing tab. The DM3 receive channels 01 to 08 are subscribed to SX-AD8+ CH1 to CH8; the diagonal of green check marks confirms that each subscription is established and running

5.1 Procedure

1. Connect the computer to the same network as the two devices and launch Dante Controller. Both units appear in the Routing tab within a few seconds.
2. Click the [+] next to the transmitter AD8-xxxxxx to expand its eight transmit channels.
3. Click the [+] next to the receiver Y0xx-Yamaha-DM3-xxxxxx to expand its sixteen receive channels.
4. Click the intersection of SX-AD8+ CH1 and receive channel 01. Repeat for CH2/02 through CH8/08, so that the subscriptions form a diagonal. Note: This is the configuration used for this guide, the channels can be rooted in any order suiting your needs.
5. Confirm that every subscription shows a green check mark. Any other symbol indicates a problem – see section 9.

6.Preamplifier setup on the SX-AD8+

1. Power the unit, either from the external DC input or from PoE.
2. Set gain, 48 V phantom power, phase reverse and LF cut for each of the eight inputs. These parameters exist only on the SX-AD8+ for now, they cannot be reached from the DM3.
3. Check that the unit appears on the network. In Dante Controller it is listed as AD8-xxxxxx, and its eight transmit channels are labelled SX-AD8+ CH1 to SX-AD8+ CH8.

Note The sampling frequency of the SX-AD8+ (configured via the web interface or the SX-Controller) must match the Dante sampling frequency. To prevent unwanted sample rate conversion (upscaling or downsampling), ensure both the SX-AD8+ and Dante Controller are set to the same sample rate.

7.Patching the Dante inputs to console channels

At this point the audio is present at the console's Dante receivers, but the input channels are still fed by the local analog inputs (IN 1–IN 16, the factory default). The sources must now be re-assigned.



Figure 3 – Setup → Patch, INPUT tab. The lower row shows the console channels; the grid above lists the available sources. Here DANTE 1, DANTE 2 and DANTE 3 have been assigned to CH9, CH10 and CH11.

1. Touch Setup → Patch and select the INPUT tab.
2. Scroll the lower row to the channel you want to re-assign, for example CH11, and touch its slot.
3. In the grid above, touch the source to assign, DANTE 3 for example.
4. Repeat for the remaining channels. The NONE button clears an assignment.
5. Close the page. The patch is stored in the current scene, so remember to save the scene.

7.1 Example mapping used in this guide

SX-AD8+ input	Dante transmit channel	DM3 Dante receiver	DM3 patch source	Console channel
1	SX-AD8+ CH1	01	DANTE 1	CH9
2	SX-AD8+ CH2	02	DANTE 2	CH10
3	SX-AD8+ CH3	03	DANTE 3	CH11
4	SX-AD8+ CH4	04	DANTE 4	CH12
5	SX-AD8+ CH5	05	DANTE 5	CH13
6	SX-AD8+ CH6	06	DANTE 6	CH14
7	SX-AD8+ CH7	07	DANTE 7	CH15
8	SX-AD8+ CH8	08	DANTE 8	CH16

Note This mapping keeps CH1–CH8 on the local analog inputs and puts the eight networked channels on CH9–CH16, any other mapping is equally valid.

8. Test of the configuration

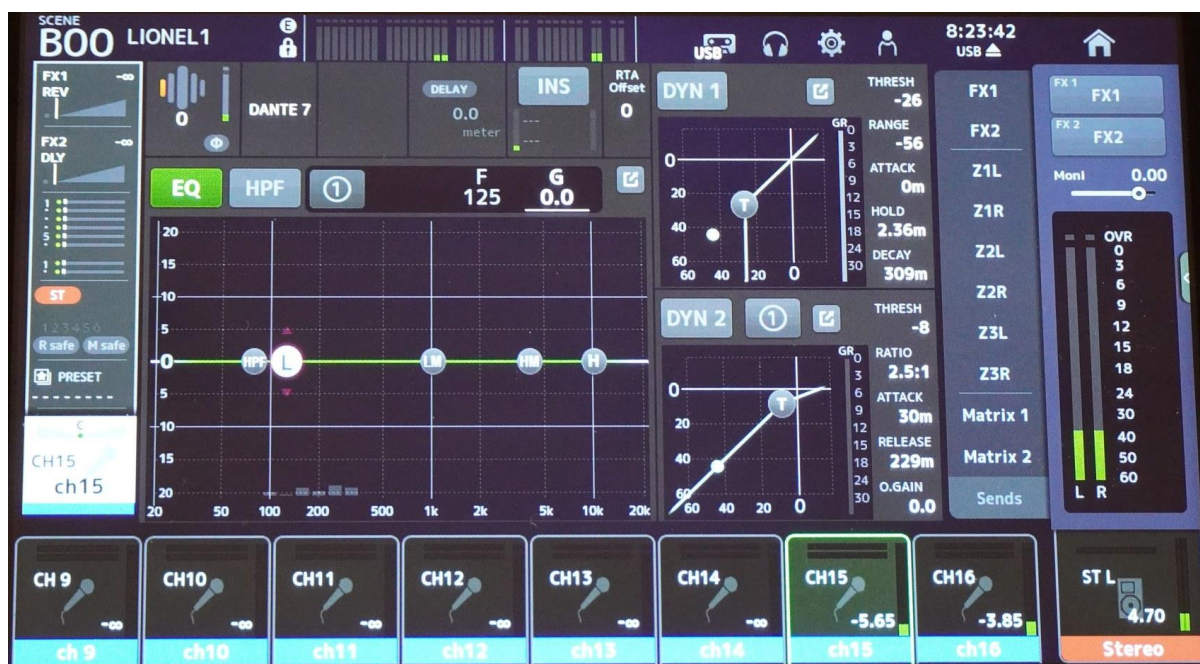


Figure 4 – A networked channel (CH15, source DANTE 7). The source field confirms that the channel is fed from the Dante network.

8.1 Confirming that everything is correct

- Dante Controller shows a green check mark on all eight subscriptions.
- The Clock Status tab shows a single clock leader and no unsynchronised device.
- The DM3 Dante Setup page shows SYSTEM and SYNC in green.
- Each patched channel shows its DANTE source in the channel view and meters correctly.

9. Troubleshooting

Symptom	Likely cause	What to do
A device does not appear in Dante Controller	The computer is on a different network, or Wi-Fi is still active and Dante Controller selected the wrong interface.	Disable Wi-Fi on the computer, check the link LEDs, and select the correct network interface in Dante Controller.
Subscription cannot be made / shows an error icon	Sample rate mismatch between the two devices.	Set both devices to the same sample rate, then create the subscription again. (In Dante controller)
Subscription is grey or shows a question mark	The transmitter has been renamed, or the transmitting device is offline.	Bring the device back online, or delete and re-create the subscription with the new name.
Green subscription but no audio on the console	The Dante source has not been patched to an input channel.	Setup → Patch → INPUT: assign DANTE 1–8 to the console channels (section 7).
Audio present but very low or distorted	Gain is set on the wrong device.	Set the analog gain on the SX-AD8+; keep the console trim near 0 dB.
Intermittent clicks or dropouts	Latency too low,EEE enabled on the switch, or a 100 Mbit link in the path.	Raise the Dante latency to 1 or 2 ms, disable EEE, and verify that every link negotiates at 1 Gbit.
Dante parameters greyed out on the console	Device Lock is enabled, or the device is enrolled in a Dante Domain Manager domain with read-only rights.	Unlock the device in Dante Controller, or log in to DDM with sufficient rights.