

Connecting a SONOSAX SX-AD8+ to a Yamaha CL5 over Dante

Eight channels from the SX-AD8+ (or more with multiple SX-AD8+) to the CL5 console over a single network cable.

Item	Detail
Applies to	SONOSAX SX-AD8+ fitted with the Dante option board Yamaha CL5 (also valid for CL3 and CL1)
Software used	Audinate Dante Controller or via the console

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 the CL5 with a single Cat5e/Cat6 cable.

The CL series console offers 64 Dante inputs and 64 Dante outputs.

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 CL5, CL3 or CL1	Dante PRIMARY and SECONDARY ports on the rear panel.
Cat5e or Cat6 cables	
Gigabit network switch	Required as soon as more than one device is on the network (I/O racks, recorder, second SX-AD8+).
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 SX-AD8+ is a transmit-only Dante device: it publishes eight channels and does not receive Dante audio.
- The CL5 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.
- The SX-AD8+ mounts as an UNSUPPORTED DEVICE on the console. This is normal for a non-Yamaha device and has no effect on the audio.

3. Cabling

1. Connect the SX-AD8+, the CL5 Dante PRIMARY port and any other Dante device to the same gigabit switch.
2. Use a switch left in its factory (unmanaged) state, or a managed switch with EEE (Energy Efficient Ethernet / “green” mode) disabled on all Dante ports.
3. Power the SX-AD8+, either from its DC input or from PoE, and allow about 30 seconds for the network to settle.

4. Console setup on the CL5

Press SETUP and check the following.

Where	Parameter	Setting
WORD CLOCK	Clock frequency	48 kHz the same value must be set on the Dante settings of the SX-AD8+
DANTE SETUP → SETUP	Console ID	#1 if this console is the only one on the network
DANTE SETUP → SETUP	Secondary Port	DAISY CHAIN or REDUNDANT, depending on the cabling
DANTE SETUP → SETUP	Latency	1 ms (0.25 or 0.5 ms on a very small network)

5. Setup on the SX-AD8+

1. Power the unit, either from the external DC input or from PoE.
2. Set the sample rate to the same value as the console (48 kHz). This can be done via Dante Controller.
3. 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+, they cannot be reached from the CL5.

6. Mounting the SX-AD8+ on the console

The console must know the SX-AD8+ before its channels can be patched. This can be done in the DEVICE MOUNT page.



Figure 1 – From any screen, press the I/O DEVICE button on the right-hand side of the display.



Figure 2 – The I/O DEVICE screen opens on the DANTE PATCH tab, which lists the devices already mounted (#1 to #24).

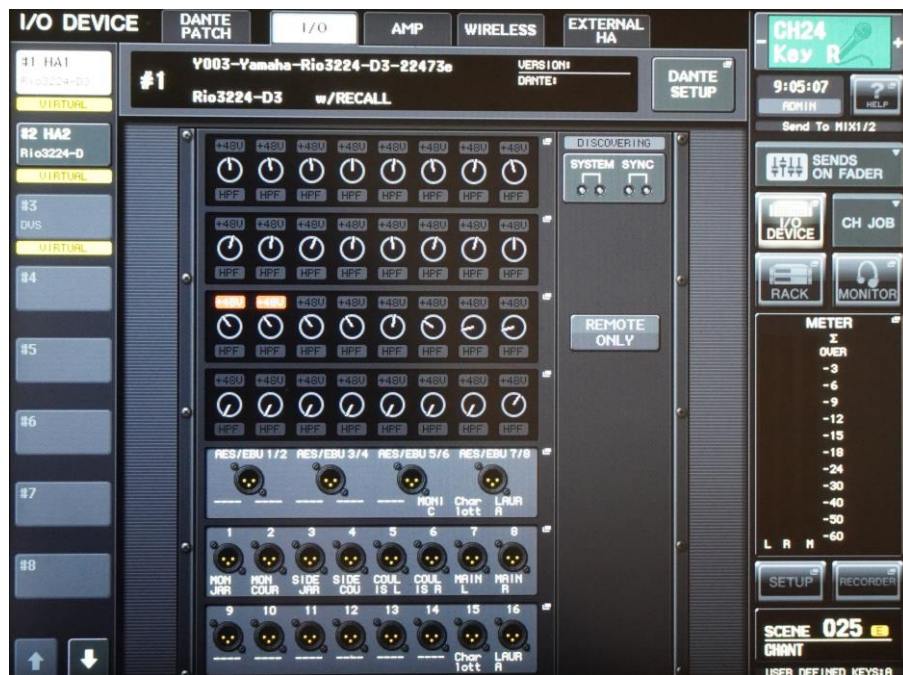


Figure 3 – Press the DANTE SETUP button at the top right of the screen.



Figure 4 – Select the DEVICE MOUNT tab, then press a free slot – here #4.



Figure 5 – In the *DEVICE SELECT* window, press *DEVICE LIST*, select *AD8-xxxxxx* and confirm with *OK*.



Figure 6 – The unit is now mounted on slot #4 and reported as 8in/0out. The *UNSUPPORTED* label simply means it is not a Yamaha I/O device.

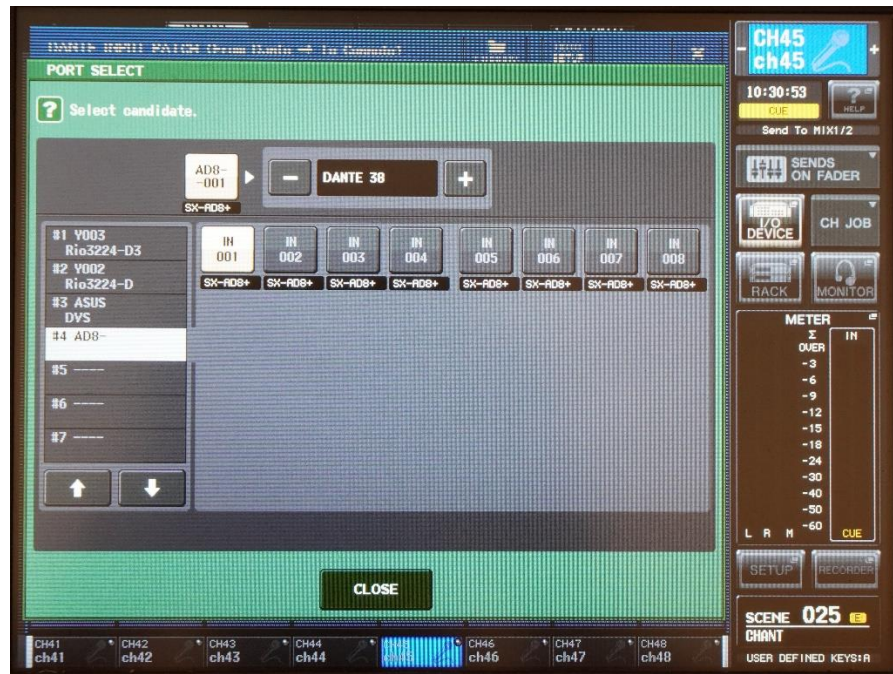
Note If the unit does not appear in the list, press *REFRESH*. A device that is powered but stays invisible usually indicates a sample rate mismatch or a link that has not negotiated at 1 Gbit.

7. Routing without Dante controller

The mounted device now must be assigned to the console's Dante input ports. This can be done via the DANTE INPUT PATCH menu or via the Dante Controller app.



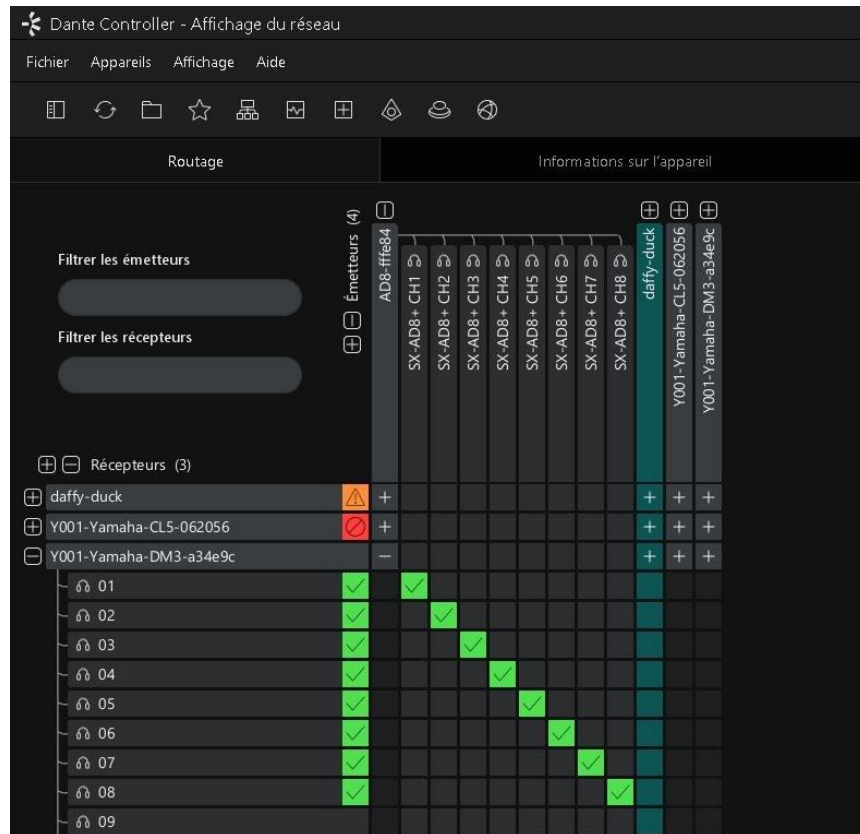
Figure 7 – DANTE INPUT PATCH. Ports DANTE38 to DANTE45 carry the eight SX-AD8+ channels (AD8--001 to AD8--008).



1. In the I/O DEVICE screen, press DANTE INPUT PATCH.
2. Press the port button you want to use for example DANTE38 to open the PORT SELECT window.
3. Select the mounted device (#4, AD8-xxxxxx) and its channel 001.
4. Repeat for the seven remaining channels, on consecutive ports

8. Routing with 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.



9. Test of the configuration

- The mounted device shows no error icon on the DEVICE MOUNT page.
- The SYSTEM and SYNC indicators of the console are green.
- The patched input channels meter correctly when signal is sent into the SX-AD8+.
- All of the subscriptions in the Dante controller are at the right place and marked green.

10. Troubleshooting

Symptom	Likely cause	What to do
The SX-AD8+ does not appear in the DEVICE LIST	Sample rate mismatch, or the device is not yet on the network.	Set both devices to 48 kHz in Dante controller, check the link LEDs, then press REFRESH.
Device mounted but no audio	The Dante input patch has not been made.	I/O DEVICE → DANTE INPUT PATCH: assign the eight channels to DANTE ports (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.
SYNC indicator not green	No clock leader, or two devices competing for the role.	Check the clock settings; only one device should be the preferred leader.