

Q: What is the maximum number of Dante audio channels per flow?

A: Dante unicast flows are typically four channels, while multicast flows are typically eight channels. Software-based Dante for the Q-SYS Ecosystem is no different than hardware Dante in this regard.

Q: Are eight Dante channels equivalent to eight mono Dante flows or four stereo Dante flows?

A: Dante channels are always mono, as Dante does not distinguish between stereo channels. It is possible to achieve stereo by utilizing dual mono transmit or receive channels.

Q: Will the Dante routing indication mirror one another whether you choose External or Internal routing control in the design properties of Software-based Dante in Q-SYS Designer Software?

A: It is an either/or operating mode. You either configure your Dante channels with Q-SYS Designer Software or you configure with Dante Controller. Any changes that you make in Dante controller will be shown in Q-SYS Designer.

Q: If Dante channel names are configured in Q-SYS Designer Software (with External Config/Control = No), does it delete the names of the receivers in Dante Controller?

A: No, Dante channel names that are configured in Q-SYS will show up in Dante Controller. Note that changes made in Dante Controller will be ignored if External Config/Control is set to No in the Dante Rx/Tx component's properties.

Q: If I have 'External Config/Control' set to No on an output, can I still use Dante Controller to subscribe other devices to those flows, or will the Q-SYS Core assert an empty assignment?

A: Yes. Q-SYS cannot currently route Dante TO 3rd party devices. You must use Dante Controller for this.

Q: Because it is possible to control the Dante routing via Q-SYS Core, when/why would I need to use external control for routing?

A: Typically, external routing control is used to connect output flows to an endpoint. The incoming flows can usually be connected within the Q-SYS environment.

Q: When selecting 'interface: both' in the Properties panel for the Software-based Dante Rx/Tx component, does that imply redundant Cores or redundant Dante streams?

A: That setting is for redundant networks. It is the same as Primary/Secondary ports on hardware Dante devices. You can configure redundant Q-SYS Cores in addition to redundant networks.

Q: What is the best practice for choosing between LAN A or LAN B when deploying Software-based Dante on the Q-SYS Core 110f?

A: We recommend whatever works best for you. Some users prefer to run Dante separate from Q-LAN and/or Q-SYS Control, but it is not required.

Q: What is the recommended setting when we are running Q-LAN and Dante in the same switch?

A: We recommend setting your Q-SYS Design to Audinate QoS. This will make it much easier to configure and manage your switch infrastructure.

Q: How do you calculate Q-LAN, Dante and AES67 stream counts in a Q-SYS design?

A: Use the 'Check Design' feature of Q-SYS Designer Software. You can create a rough design for the stream/channel counts you'd like and then use 'Check Design' to validate it.



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Q: How necessary is QoS on a gigabit switch with plenty of headroom and why?

A: QoS and multicast management is always recommended in order to maintain as precise and stable as possible PTP clocking. Shortcuts in network configuration are not advised.

Q: Can you explain the 'PTP Force On' design property in Q-SYS Designer Software?

A: The 'PTP Force On' design property is for edge cases where you may not have any Q-LAN peripherals in your design and you need to force PTP to be present on the network for devices outside of Q-SYS. By default, if there are no Q-LAN peripherals in your design, we disable PTP to prevent unnecessary network traffic.

Q: What are the advantages of forcing the Q-SYS Core to be the master clock?

A: In some applications you want the Q-SYS Core to be the master clock because it's usually the one device in the system that's guaranteed to always be on and available, thus making it a reliable clock source.

Q: Which QSC device needs to be set as the PTPv1 master when deploying Software-based Dante (on the Q-SYS Core 110f)?

A: The Q-SYS Core 110f is the only device capable of being the PTPv1 master.

Q: If Q-LAN and Dante are on the same VLAN, is it possible to share a common clock for both protocols? Or will PTPv1 and PTPv2 be on the network concurrently?

A: Q-SYS (Q-LAN) and Dante can certainly share the same network or VLAN. Dante will use PTPv1 and Q-LAN will use PTPv2. If a Core with Software-based Dante is present, it will create a boundary clock between the two. If a Dante device with AES67 enabled is on the network, it may be the boundary clock. Or, if a Dante Domain Manager is deployed, it may be the boundary clock. In most cases, PTPv1 and PTPv2 will always be on the network concurrently.

Q: What are best practices for master clocking in large enterprise networks with many Q-SYS Cores?

A: When a system reaches a certain size, it's often best to have a dedicated hardware master clock device and even segment the system logically. However, it will also depend on your exact system, deployment topology, and use cases.

Q: Is there any reason not to use an outboard master clock (i.e. Brainstorm unit) to give you a consistent clock?

A: That's certainly possible and there is no right or wrong answer. It's up to your specific application needs and use case.

Q: How will a Q-SYS system with Software-based Dante on a Q-SYS Core 110f and a Core 510i (with Dante I/O card) behave if there is a true PTPv2 Grandmaster such as a Tektronics SPG8000?

A: The Q-SYS Cores will sync to the PTPv2 Grandmaster as long as it is the preferred master or has a higher clock priority.

Q: With Software-based Dante egressing both Q-LAN physical ports, can we put tags on each protocol in the future, so that the switch can treat QLAN/Dante as a trunk ingress and split the traffic?

A: If this is in reference to 802.3q (VLAN tagging), that is something Audinate will have to support natively in the Dante protocol so that it is compatible with the entire Dante ecosystem. QSC could add this to Q-SYS independently, but it would only be compatible with native Q-LAN devices.

Q: Is it possible for Q-SYS to manage Dante device discovery/subscriptions for third-party devices?

A: Q-SYS can discover Dante devices/channels on the network and subscribe to them, but Q-SYS cannot tell third-party Dante devices to subscribe to Q-SYS at this time.

Q: Can I use Dante Controller to route Dante network audio from third-party devices to the Core?

A: Yes, Dante Controller can route any Dante device on the network, regardless of manufacturer. Just make sure you set the Software Dante Rx Component for External Config/Control = Yes if you wish to route via Dante Controller.



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Q: Does Software-based Dante support Multicast flows being configured from Dante Controller?

A: Make sure the Software Dante Tx component in Q-SYS is set to External Config/Control = Yes, if you want to configure anything in Dante Controller.

Q: If a Dante network is large enough, in an enterprise plant, you might encounter Dante Domain Manager. How does that factor into the clock concerns, especially if also using AES67?

A: Dante Domain Manager allows for AES67 in a single domain only, currently. Otherwise, it must be ad-hoc or unmanaged.

Q: If all the switches are using an EXTERNAL oscillator (a'la a TV station) will Wireshark be able to see that as the 'timesource'?

A: This depends upon how that timesource is translated and ultimately transported over the network. If it's any kind of encapsulated UDP or TCP traffic, there's a good chance Wireshark will be able to decode it.

Q: How many Dante flows are supported by the Q-SYS CDN64 Dante network I/O card?

A: The Q-SYS CDN64 Dante network I/O card supports up to 32 Dante flows.

Q: If I am using the CDN64 Dante network I/O card in a Q-SYS Core 510i, should I also change my QoS settings to Audinate for that Core?

A: This decision should be based on personal preference and the specific network topology of the system. It's generally easier to mix Q-LAN, Dante, and AES67 if you set your Q-SYS Design to Audinate QoS, then setup your switch the same as any other Dante switch.

Q: Do the CDN64 Dante network I/O cards use sample rate conversion to prevent misalignment?

A: Yes, sample rate conversion is necessary to make the Dante hardware cards function properly.

Q: Is it possible to view Software-based Dante control status information on a Q-SYS user control interface (UCI)?

A: Yes, control status information for the Dante Tx/Rx components can be deployed on a Q-SYS UCI.

Q: Where can I find more information about configuring my Q-SYS system for Dante network audio integration?

A: You can find more information in the [Q-SYS Help File](#).

Q: Can Software-based Dante feature licenses be transferred between Q-SYS Cores?

A: No, Software-based Dante feature licenses are 'node-locked' to a specific Q-SYS Core and cannot be transferred to another Q-SYS Core. The only exception is if a Core malfunctions and needs to be serviced or replaced.

Q: If I have a Q-SYS Core 510i with CDN64 Dante network I/O cards already installed, will a license be required to continue using when upgrading firmware?

A: No, the Dante network I/O cards do not require a license.

Q: Are Attero Tech by QSC I/O peripherals capable of Dante and AES67?

A: All of the Attero Tech by QSC devices with UltimoX (UXT) chipsets are capable of Dante/AES67. Make sure you check for the latest [firmware](#) on the website.

Q: Will the Q-SYS Core accept Shure's encryption?

A: No, that encryption is proprietary to Shure and doesn't currently provide third-party interoperability.



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