For the correct operation of Dante expanders within an SQ system, including preamp control and use of multiple expanders, all devices in the system should be running the latest firmware.

The method for updating each is different.

SQ Console

Visit https://www.allen-heath.com/key-series/sq/sq-software/ to download the correct firmware ZIP file for the model you are updating.

This contains a *.bin firmware file and the update instructions document.

The instructions are also available to view separately online:
https://www.allen-heath.com/media/SQ-Firmware-Update-Instructions.pdf

SQ Dante Option Card

Visit https://www.allen-heath.com/ahproducts/sq-dante/ and navigate to the 'Software' tab to download the latest version of the SQ Dante option card firmware for the card you wish to update.

Note: V1 and V2 cards use different firmware. A V2 card is easily identified by the artwork:

V1 - M-SQ-SDANTE   V2 - M-SQ-DANT64

Firmware is provided as a *.dnt file contained in a compressed ZIP file and must be extracted before use.

Visit https://www.audinate.com/latest-firmware-update-manager to download the latest version of the Dante Firmware Update Manager software and to view the Update Manager User Guide.

Connect a computer and the SQ Dante option card primary port to the same Dante network.

Then follow this modified excerpt from the full Dante Update Manager User Guide:

1. Open the Dante Firmware Update Manager.
2. If you see the interface selection screen, select the primary Dante network.
3. Select Update Dante Firmware.
4. Click Browse.
5. Browse to the directory in which you saved the SQ Dante option card firmware update file.
6. Select the SQ Dante firmware update file (e.g. 'AllenHeath_SQDante_1.0.5.17.dnt').
   The Firmware Update Manager will now scan for SQ Dante option cards on the network.
7. View the discovered option cards and select those you wish to update by clicking the associated checkbox.
8. Click Start.
   The Firmware Update Manager will start updating all selected devices.
   Each device will be updated in turn, taking 2-4 minutes per device
9. Power cycle the SQ or use Dante Controller to reboot the option card independently of the console and complete the update.

DT168 and DT164-W Expanders

Visit https://www.allen-heath.com/ahproducts/io-dt168/ or https://www.allen-heath.com/ahproducts/io-dt164-w/ and navigate to the 'Software' tab to download the latest version of the DT (Dante expander) firmware update software.

Run the downloaded *.exe file and follow the instructions on screen to install the 'DT Firmware Update' program on a computer running Windows 7 or 10 (64 bit).
Once installed, the updater can be found at any time under 'Allen & Heath' in your start menu.

Ensure that you have a maximum of two active ethernet adapters enabled in Windows network settings, connect one of these to the same Dante network as up to 16 DT expansion units and run the 'DT Firmware Update' program.

You will be presented with a list of the expanders on the network and information on each including device name and currently installed control firmware.

Select all devices you wish to update and then click 'Update Firmware'.

A progress bar shows the progress of the update, and once complete, the expanders will automatically reboot.

Troubleshooting and extra information

Dante devices not visible on the network or update failed:
Check all physical connections. Ensure there are no firewalls or other network systems in place that may prevent you from seeing the devices. Make sure all devices have IP addresses in the same subnet.

It's not possible to patch between devices in Dante Controller:
Open the Device View and navigate to the 'Device Config' tab. You can then switch between devices using the drop-down list at the top of the window and check that all devices you wish to patch between are running at the same Sample Rate.

Check that all devices have IP addresses in the same subnet.

Controlling the preamps in a DT expander:
Once successfully patched to an input channel or Mix Ext In on a mix bus, preamp controls for DT expanders will appear in the preamp section of the processing screen just like with any other preamp.

If a preamp is connected to multiple consoles, then any adjustment to the preamp state made by one console (48v on/off, Pad on/off or gain change) will be displayed across all.

Note that unlike most expanders, the preamp settings for DT units are stored in the device and are persistent after power cycling or when physically connecting in a completely different way.

The settings will be active once the DT expander detects a network connection and the 'Ready' LED illuminates.

Switch or redundant modes for Dante devices:
There are two modes for the network ports on a Dante option card or expander. The mode is set in Dante Controller by opening the Device View and navigating to the 'Network Config' tab

Switch mode allows cascading of Dante devices including expanders and option cards. It works just like a miniature network switch and enables each port to individually connect to other equipment.

Redundant mode allows for a redundant Dante network to be created, avoiding dropout in the case of a cable or switch failing. For more information on setting up a redundant network, visit the Audinate website.

Control Network Bridge:
The Control Network Bridge can be used to internally connect the SQ Network port to the Dante option card. This allows the option card and the SQ to exist on the same network without extra cabling.

It will allow you to see and control the Dante option card from a computer connected to the SQ Network port, but it is only for control data - Dante audio cannot pass over the bridge.

Note that if DHCP is enabled on the Dante option card and the Network port of the SQ is connected to a DHCP host, then switching the Control Network Bridge ON could inadvertently change the IP address of the option card.

For more information on Dante visit https://www.audinate.com/support
For more information on Allen&Heath visit http://support.allen-heath.com/