



## digiMIX24 AN-1 Application Note

### Using Two digiMIX24 Consoles with Dante for FOH and Monitor Mixing

#### Overview

Two digiMIX24 consoles, both equipped with Dante-32 digital audio network options can serve together as FOH (front of house) and monitor mixers, where only a single cat-5 Ethernet cable is used as a bidirectional snake. The monitor console can perform up to 8 separate monitor mixes, plus one stereo monitor mix using subgroups, while also returning the complete FOH mix into the monitor console's Main outputs via USB audio channels. Once configured, this is a reliable two-mixer bidirectional snake system which does not need a computer or any network hardware (router and switches) to operate.

#### 1) Monitor Console Set-Up Procedure:

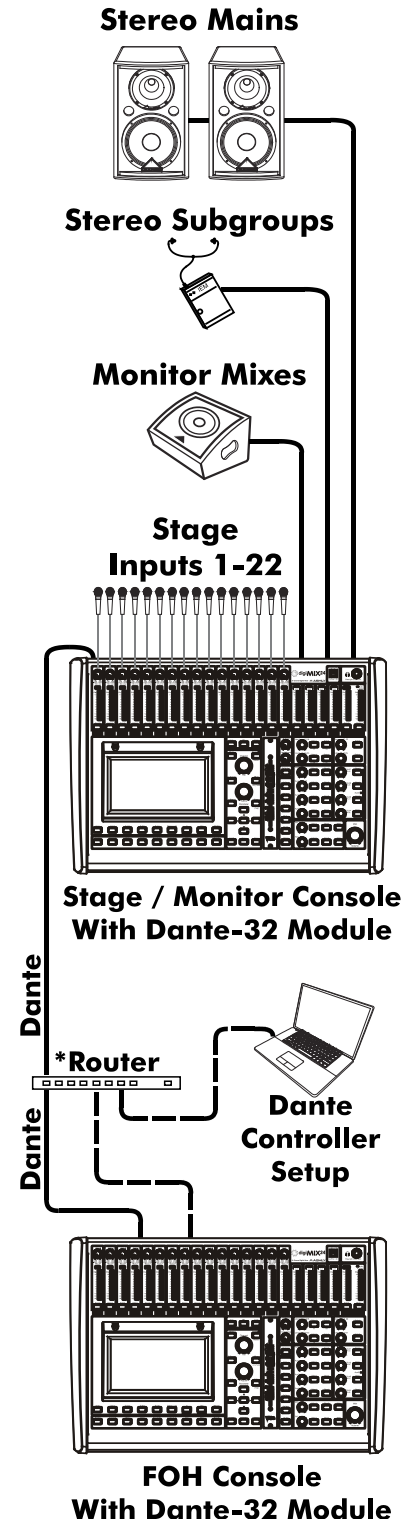
**1.1 - Assign all input channels you would like sent out to the FOH console** via the Dante network. To do this, press the Digital Out button, then select and assign input channels on the touch screen so they say "On". Assigned channels are sent out to the Dante network pre-fader but post-DSP processing. Channels assigned as Dante outputs remain available for regular use on the monitor console, and can be assigned to any monitor console mix bus without affecting channels sent to FOH.

**1.2 - Assign channels you would like brought in to the monitor console from the FOH console over the Dante network.** In this example, the complete stereo house mix from the FOH console is sent back to the Monitor console over Dante using the stereo USB channels. Press the Digital In button on the monitor console, then select the last two inputs (23 and 24) which are the USB left and right inputs. This will override the USB 2-track input jack on the face of the monitor console.

**1.3 - Assign the FOH mix, which has been assigned to the USB input in step (2), to go out the monitor console's Main outputs** by pressing the USB 23-24 Select button on the monitor console, then press the Main button to assign it to the main mix. No other channels should be assigned to the monitor console's main mix, only the stereo USB inputs from the FOH console. The monitor console's stereo USB input channel processing (PEQ, Comp/Lim etc.) will affect the FOH mix signals.

#### 2) FOH Console Set-Up Procedure:

**2.1 - On the FOH console, press the Digital In button to assign digital input channels.** Use the touch screen to select and turn on input channels for receiving Dante channels from the monitor console for FOH mixing. Note that this will disable analog inputs on any selected FOH mixer channels. Dante input signals are fed into the FOH console signal path post-Gain control, but pre-fader and pre-EQ.



*\*A router must be used during initial Dante Controller set-up. Once configured, the Dante connection between mixers can be made directly without a router.*

**2.2 - On the FOH console, press the Digital Out button to assign digital output channels.** Select the Main-L and Main-R buttons on the touch screen so that they are On. This feeds the FOH main stereo output mix out to the Dante network using Dante channels 29 and 30.

### 3) Dante Controller Software Set-Up Procedure:

**3.1 - Launch Audinate's free Dante Controller software.** At first, connect just the FOH console's Dante module to the network on which the Dante Controller computer is connected. You should see this console in Dante Controller with the default device name digiMIX24-Dante-32.

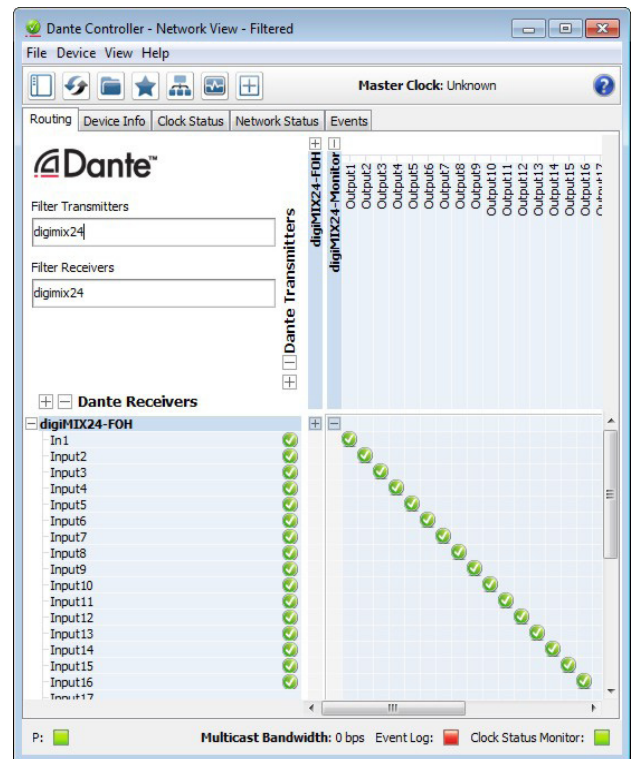
**3.2 - Rename the FOH console in Dante Controller so that you can distinguish it from the monitor console.** To rename it, click on the <Device Info> tab, then double-click on the current mixer's <Device Name>, then click the <Device Config> tab in the dialog window, then type a new name such as "digiMIX24-FOH" in the Rename Device text box and click <Apply>. These names only affect Dante Controller, not the internal mixer device names.

**3.3 - Connect the Monitor Console's Dante module to the same network.** Rename the monitor console to "digiMIX24-Monitor" using the same procedure as described above in line 2.

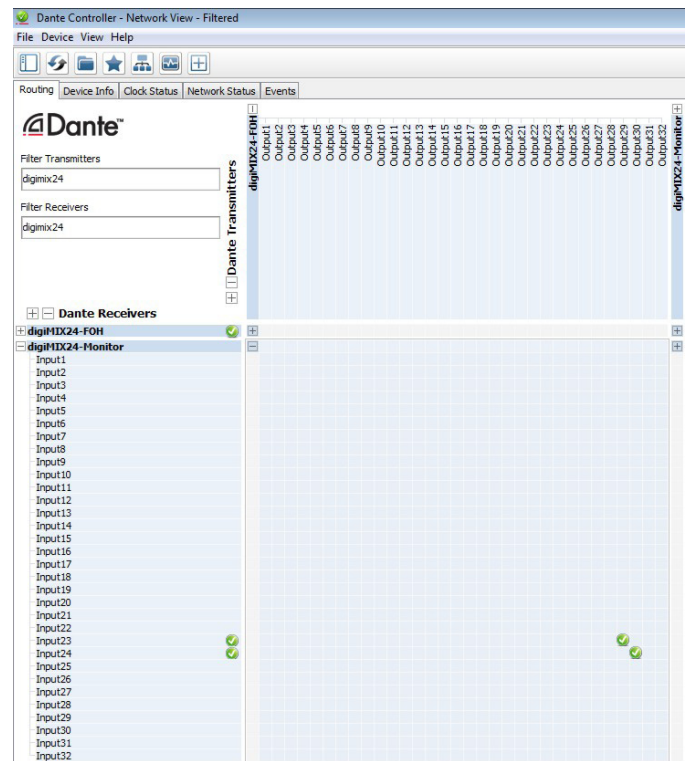
**3.4 - Route the monitor console channel outputs (Dante Transmitter) to the FOH mixer channel inputs (Dante Receiver).** Click the main <Routing> tab, then expand both mixers and click on the squares which intersect the digiMIX24-Monitor's output channels across the top with the digiMIX24-FOH inputs down the left side. A green checkmark indicates successful assignment.

**3.5 - Route the FOH console's main output mix back to the monitor mixer's 2-Track USB input via Dante.** Click on the squares which intersect the digiMIX24-FOH's Output channels 29 and 30 (the Main mix) across the top and the digiMIX24-Monitor Inputs 23 and 24 (the USB inputs) down the left side.

**A Note About Channel Mapping:** On digiMIX24 mixers, input or output channel mapping numbers for use with Dante Controller cannot be changed. A channel mapping reference can be viewed at any time on the mixer touchscreen display by pressing <Digital - In> or <Digital - Out>, then pressing the <Channel Mapping> button for input or output screen.



4) Routing, Monitor to FOH Console  
(Monitor console is transmitter, FOH is receiver)



5) Routing: FOH to Monitor Console  
(FOH console is transmitter, Monitor console is receiver)

**3.6 - Dante Controller may now be closed and the computer can be removed from the network connection.** Both mixers will retain the Dante routings in their respective Dante-32 option modules. The mixer's Dante modules can be connected directly together with a cat5 Ethernet cable without using any Ethernet router or switch, and the network audio will still function. Restoring the mixer to it's factory default settings (System button, then Restore Default Settings) removes the mixer's Digital In and Out selections, but does not remove the Dante Network routing settings.

### **A few notes about network audio reliability and security.**

If the Dante Ethernet cable connecting the two mixing consoles gets unplugged, all network audio channels will immediately mute without any click or pop noises. When the cable is plugged back in, all network audio will resume in about 5 to 10 seconds with no click or pop noises. Similarly, if one of the mixers loses power, the network signals will mute immediately with no clicks or pops, and audio will resume when the mixer is powered back on.

Any Dante network routing assignments are stored in the digiMIX24 Dante-32 module's flash memory, so the network routing settings are very safe from being lost, however these settings can be changed by anyone who connects to the network and uses Dante Controller software. Alternately, if only one Ethernet cable connects between the two mixers, they are safe from being re-configured unless someone re-cables the mixer into a network or computer.

The Digital In and Digital Out assignments are stored in the mixer's scene presets and flash memory, not the Dante-32 memory. The mixer flash memory settings get erased when the Restore Default Settings command is given in the System screen, but can be recalled by loading a previously saved scene preset.

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