NIDEX UX24 DIAGRAMA DANTE/AES67

QUICK GUIDES



The diagram above shows an example of installation that **implements the full capability of interconnection** of the **UNIDEX UX24** using its analog and digital inputs and the AOIP DANTE module.

The example proposes: a Studio A, a Control Room and a the Production telephones connected to the inputs and outputs of the rear panel; and a remote Auditorium and Studio B connected by AoIP to the DANTE AES67 module.

INTERNET ACCESS AND FILE SERVERS

The example uses **two independent networks**, a DANTE AoIP network and another network for the file server and Internet access.

Computers connected to the DANTE network access DANTE devices and the control of the UX24. For any of these computers to also have access to the Internet and / or the station's file servers, it must have a second network card to connect to that LAN.

Solidyne UNIDEX modelo UX24/A67 equipped with the optional DANTE / AES67 module.

This module replace 4 UNIDEX stereo inputs and the 4 balanced stereo inputs by 16 DANTE AoIP (mono) inputs. And provides 16 DANTE sends (8 stereo).

Switch Gigabit QoS. It connects using CAT5e or CAT6 Ethernet cable to the **DANTE module** to mount the audio network.

DANTE network can be used without restrictions for accessing to the web control of UNIDEX UX24. For this, the Ethernet port "CONTROL" is connected to this switch.

In the example installation, the Auditorium and Studios A and B computers are connected to the DANTE network to send and receive audio with the DANTE Virtual Sound Card, so this computers have access to the the UX24 web interface (since AoIP switch is connected to UX24s Control port).

TAKE IN MIND

Although in certain cases Audinate allows sharing the DANTE network with other applications, for example moderate use of the Internet, in radio this is NOT recommended due to the high traffic load involved in handling audio and video files, usually hosted in one or more more file servers. Therefore we advise setting up a LAN for file and Internet management and another LAN for AoIP DANTE.

For details and requirements about the Dante networks, please refers to the following links:

https://www.audinate.com/support/networks-and-switches

https://my.audinate.com/sites/default/files/PDF/advanced-dantenetworking-avnw-2015-audinate.pdf

C DANTE/AES67 network. To simplify the diagram, the network is represented as a BUS, that is, a single line to which the DANTE devices are attached. But in the facts, each device connects to the switch using a CAT5e or CAT6 Ethernet cable.

Depending on the characteristics of the building, you can install a switch in each studio, to connect the studio devices to the local switch. Note that in the proposed example, only two DANTE Ethernet cables are required for Studio B and three cables are required to connect the Auditorium, so the cost of installing additional switches may not be justified.

DANTE CONTROLLER

The routing and configuration of the DANTE devices on the network is done using <u>DANTE CONTROLLER</u>, a free software that can be installed on any terminal on the AoIP network.

https://www.audinate.com/products/software/dante-controller? lang=es

AUDITORIUM

In the example, an Auditorium set ups with the following features:

8 microphones

A DANTE 8 mic pre is used (for example Yamaha RI8). In our example, the microphones are assigned via Dante Controller to inputs AoIP-1 to AoIP-8 of the UNIDEX UX24.

E 2 lines for monitoring

UNIDEX UX24 is an on-air mixer console, so it manages only one mix, which can be assigned to 4 send output buses. The Headphone and Speaker monitoring outputs for Studio A are available on the AoIP network. The advantage of using these outputs as a monitoring source is that they can be easily assigned to either bus from the Monitoring section of the console.

The diagram uses two floor DANTE monitors that are connected directly to the network.

To know a great types of available DANTE/AES67 devices please see the following link:

https://www.audinate.com/products/dante-enabled?lang=ja/

Intercom

To speak to the auditorium monitoring, the operator can use the mic-8 as a command microphone, assigning it to the buses that are sent for monitoring. If computer playback is not used, a microphone connected to the computer and assigned to AoIP-13 or AoIP-14 with DANTE VIA can be used.

Computer for mix and remote control

This computer connects to the switch of the DANTE network using Ethernet CAT5e.

- Through a WEB browser the user can access the UX24 control interface. Here the microphones are mixed for PGM and the monitoring signals are controlled.
- MONITORING: Using the **DANTE VIA** software, the DANTE network outputs are routed to the computer's audio device (WDM, ASIO, etc). In this way, the operator listen to the monitoring signal with headphones or active speakers. The Studio A speaker or headphone assignment can be used as monitoring source. Both are available on AoIP.
- The 16 AoIP inputs and 16 outputs are available on the computer, via the <u>DANTE Virtual Soundcard</u>. In this way the operator can play audio and even use a DAW to record to the eight microphones on multiple tracks.

In the example, the UX24 AoIP-9 and AoIP-10 input channels are assigned in Dante Controller for stereo playback from this computer.

STUDIO B

The Studio B are planned as an auxiliary small Studio, to on-air live contents or for recordings.

C 2 microphones

The Solidyne UDX 2MIC/A67 adapter provides connections for two microphones. It connects to the DANTE switch with a CAT5e Ethernet cable.

In the example, in Dante Controller the UDX 2MIC / A67 adapter is assigned to the AoIP-11 and AoIP-12 inputs of the UX24. The AoIP1 and AoIP2 outputs of the computer are assigned to the AoIP-13 and AoIP-14 inputs of the UX24 for stereo playback from this computer.

H Computer for mix and remote control

The computer connects to the DANTE network switch with CAT5e Ethernet cable.

Like the Auditorium computer, it uses **DANTE VIA** to route AoIP signals to the computer's audio devices, and **DANTE Virtual Soundcard** to have all AoIP signals available.

Al igual que la computadora del Auditorio, usa <u>DANTE</u> <u>VIA</u> para rutear señales AoIP a los dispositivos de audio de la computadora, y <u>DANTE Virtual Soundcard</u> para disponer de todas las señales AoIP.

STUDIO A

In the Control Room of Studio A, a computer works on the DANTE network, with DANTE Virtual Soundcard it has all the inputs and outputs of the AoIP network and allows access to the WEB control of UX24.

In the example Dante Controller inputs AoIP-11 and AoIP-12 are assigned for stereo playback from this computer.

This terminal, connected to the DANTE network, allows access to the remote WEB control of the UX24 console.

The computer that runs the main on-air management software (playout), connected by USB, is not connected to the DANTE network switch, therefore it does not have access to the UX24 control (it can be provided adding a second network card, but it is not useful in this scenario).

			UNIDEX UX24 OUTS													U	X	8 MIC RACK							PC OUTPUTS								
	Dante Controller (example)	PGM-L	PGM-R	OUT1-L	OUT1-R	OUT2-L	OUT2-R	STUDIO-HP-L	STUDIO-HP-R	STUDIO-SPK-L	STUDIO-SPK-R	OUT-AoIP6-L	OUT-AoIP6-R	OUT-AoIP7-L	OUT-AoIP7-R	OUT-AoIP8-L	OUT-AoIP8-R	UDX 2MIC 1	UDX 2MIC 2	MIC-1	MIC-2	MIC-3	MIC-4	MIC-5	MIC-6	MIC-7	MIC-8	PC STUDIOA-L	PC STUDIOA-R	PC STUDIOB-L	PC STUDIOB-R	PC Auditorium-L	PC Auditorium-R
UNIDEX UX24 INPUTS	AoIP 1-L (1)																			✓													
	AoIP 1-R (2)																				✓												1
	AoIP 2-L (3)																					>											
	AoIP 2-R (4)																						<										
	AoIP 3-L (5)																							✓									1
	AoIP 3-R (6)																								✓								
	AoIP 4-L (7)																									✓							
	AoIP 4-R (8)																										✓						
	AoIP 5-L (9)																															✓	
	AoIP 5-R (10)																																✓
	AoIP 6-L (11)																											~					
	AoIP 6-R (12)																												<				
	AoIP 7-L (13)																													✓			
	AoIP 7-R (14)																														✓		
	AoIP 8-L (15)																	<															
	AoIP 8-R (16)																		~														
SPK	LOUDSPEAKER 1							✓																									
	LOUDSPEAKER 2									~																							
PC A PC B	PC STUDIOA 1									<																							
	PC STUDIOA 2										>																						
	PC STUDIOB 1									<																							
	PC STUDIOB 2										>																						
PC AUDITORIUM	PC Auditorium 1																			✓													
	PC Auditorium 2																				✓												
	PC Auditorium 3																					<											
	PC Auditorium 4																						~										
	PC Auditorium 5																							✓									
	PC Auditorium 6																								✓								
	PC Auditorium 7																									✓							
	PC Auditorium 8																										✓						
	PC Auditorium 9									✓																							
	PC Auditorium10										✓																						

* This table is simplified. Each computer has 16 inputs and 16 outputs on the network in Dante Controller. Any of the 14 inputs not shown in the example can be assigned to console outputs.

* Dante Controller allows you to save the matrix configuration, which enables you to establish other routes and load them for specific uses.