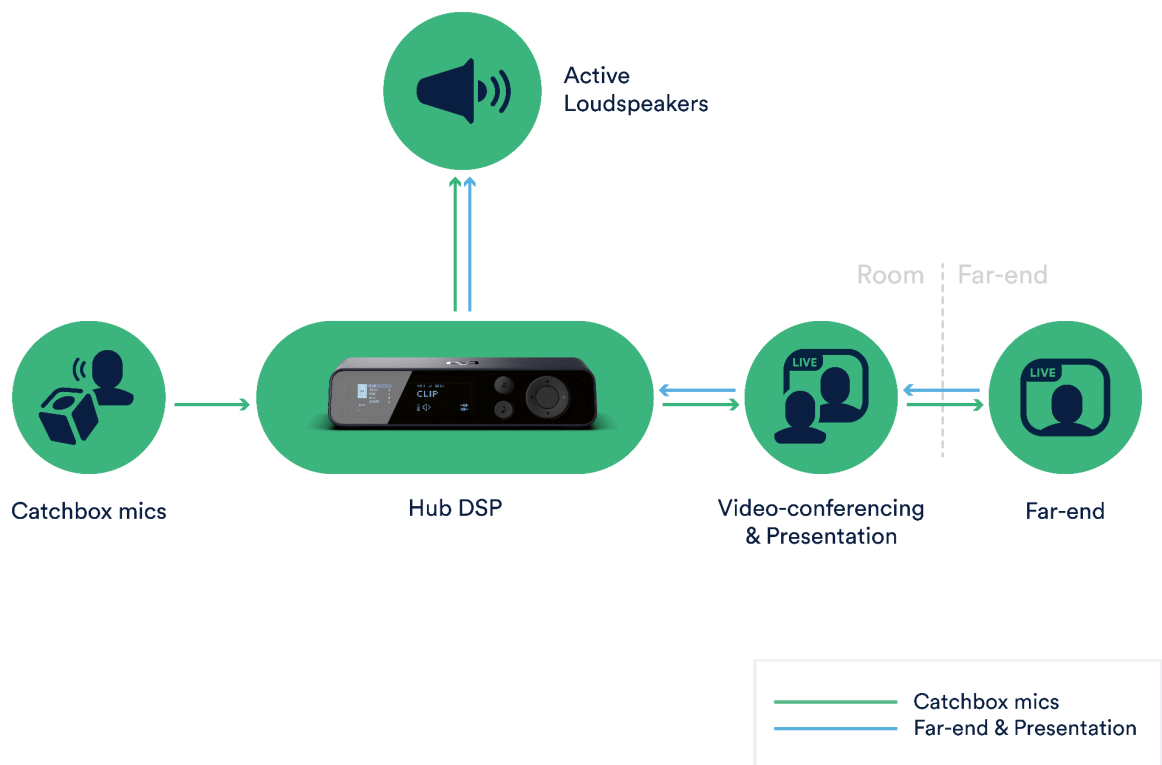




Catchbox Plus for video-conferencing with loudspeakers

What will you get?

- All audio flows mixed and managed from Catchbox Hub DSP
- Catchbox mic audio amplified in the room
- Far-end audio amplified in the room
- Catchbox mic audio sent to far-end



What will you need?

- Catchbox Plus system with one or more microphones
- Catchbox XLR-to-3pin output Adapters 2 pcs (purchased separately)
- Computer for video-conferencing
- Active loudspeakers with audio cables - 2 sets



Step-by-step instructions

1. Ensure all Catchbox mics are paired with the Hub.

- 1.1.** In most cases, the mics are pre-paired before shipping. However, if pairing is required, follow the instructions in this [Knowledge Base article](#).

2. Connect the cables

- 2.1.** USB - connect Catchbox Hub DSP to your video-conferencing computer using the included USB-C cable. It'll provide power to the Hub DSP and send two-way audio to the computer.
- 2.2.** Active loudspeakers - use appropriate cables to connect your loudspeakers to Catchbox Hub DSP outputs "3-PIN L" (Left) and 3-PIN R" (Right). If necessary, use Catchbox XLR-3PIN Output Adapters (purchased separately).

3. Configure your Catchbox Hub DSP

- 3.1.** Set Hub DSP to operate in "Speakerphone mode". It'll set USB audio to be recognized as both "Microphone" and "Loudspeaker" on the video-conferencing computer.

GLOBAL SETTINGS → SYSTEM → USB DEVICE MODE →
SPEAKERPHONE

- 3.2.** Configure audio mix for video-conference on USB OUT (MIXOUT)

OUT → MIXOUT → USB OUT → CHANNEL SETTINGS → MIX
CONFIGURATION → MIC1-4, ENABLED

NB! Disable all other signals.



3.3. Configure audio mix for loudspeakers on 3-PIN (MIXOUT)

OUT → MIXOUT → 3-PIN → CHANNEL SETTINGS → MIX
CONFIGURATION → MIC1-4, USB-IN ENABLED

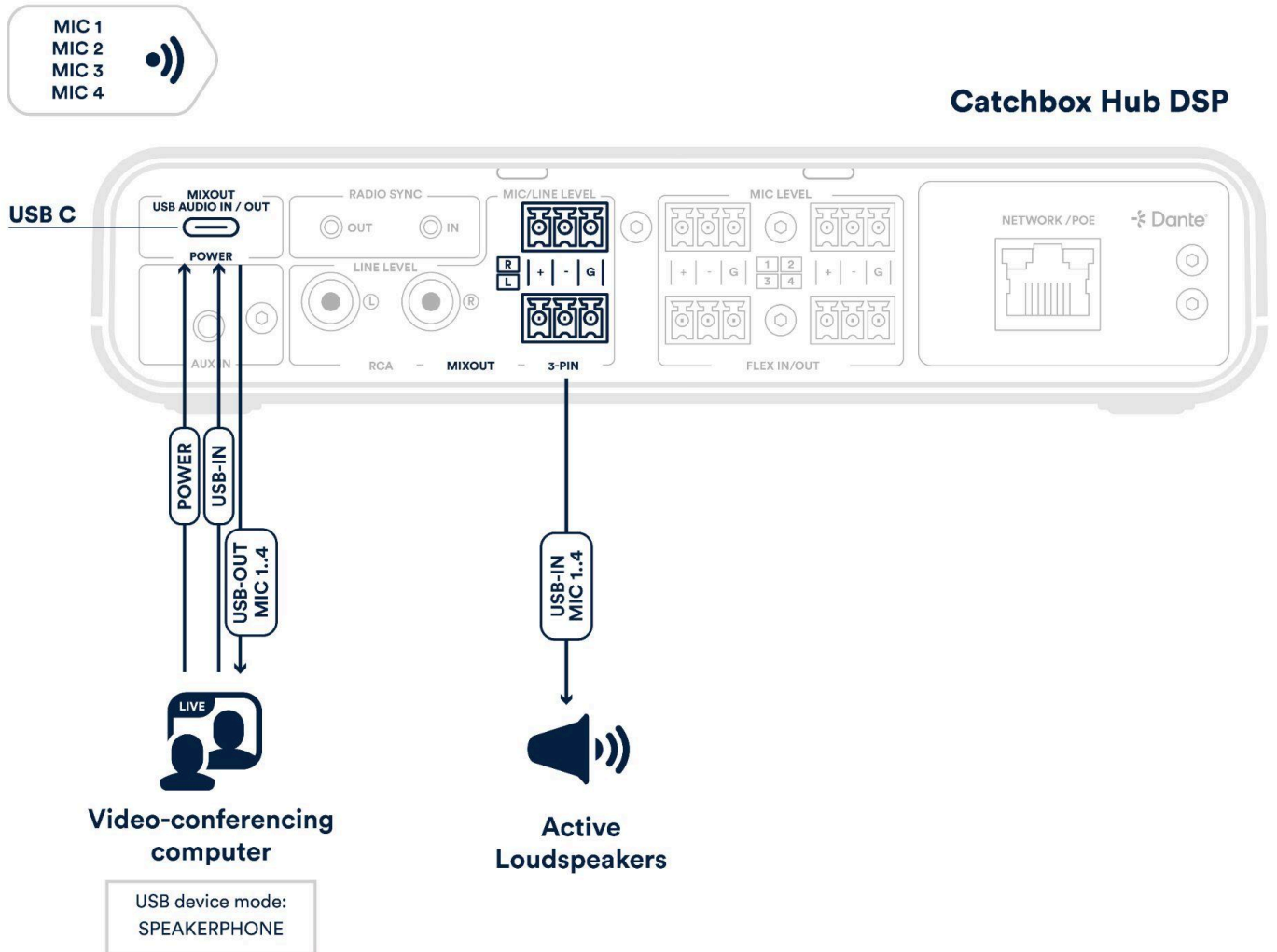
NB! Disable all other signals.

4. Configure your video-conferencing computer

- 4.1.** In the computer's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the OS).
- 4.2.** In the video-conferencing platform's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the platform).
- 4.3.** Enable all VC platform processing



Wiring and mix diagram



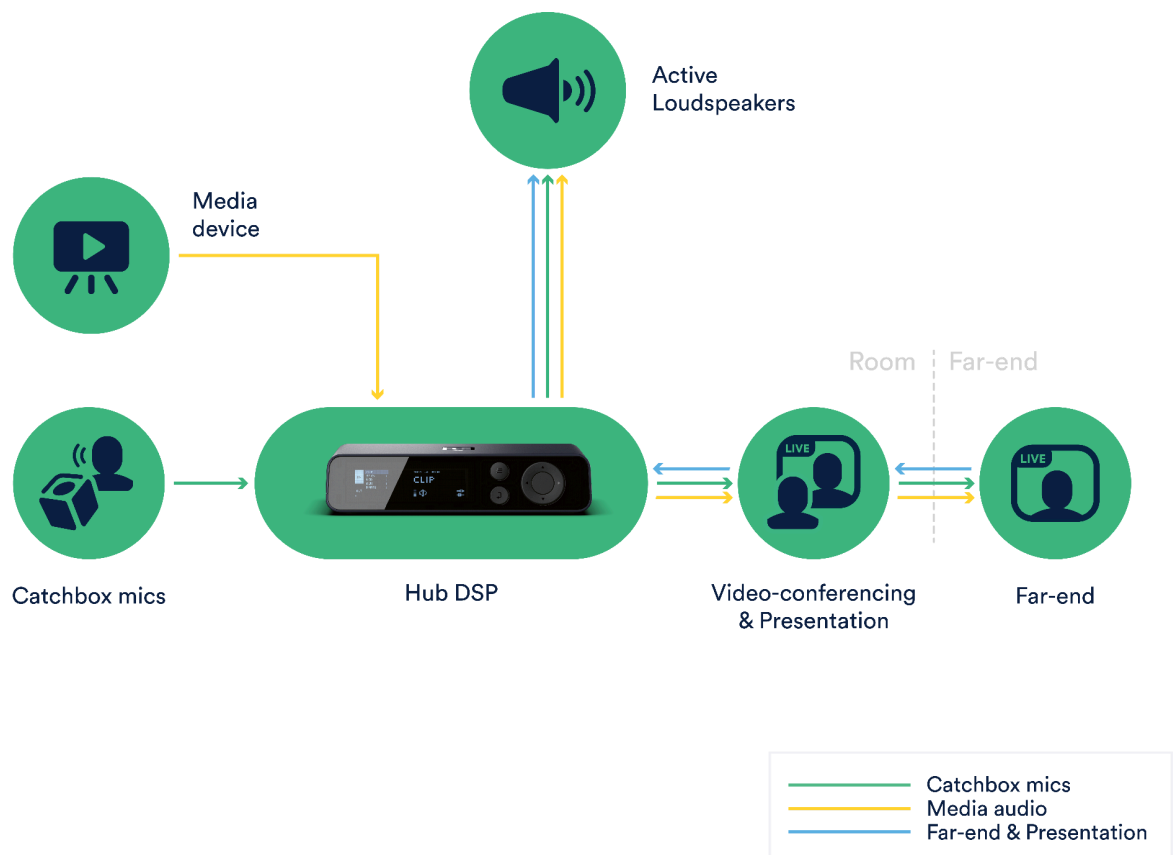


Catchbox Plus for video-conferencing with analog media device and loudspeakers

*Analog media device - tablet, mobile phone, DVD player, etc with an analog audio output port.

What will you get?

- All audio flows mixed and managed from Catchbox Hub DSP
- Catchbox mics, media audio and far-end audio amplified in the room
- Catchbox mic audio and media audio mixed and sent to far-end





What will you need?

- Catchbox Plus system with microphones
- Media device with analog audio output
- Video-conferencing computer (USB Audio connection to Hub DSP)

Step-by-step instructions

1. Ensure all Catchbox mics are paired with the Hub.

- 1.1. In most cases, the mics are pre-paired before shipping. However, if pairing is required, follow the instructions in this [Knowledge Base article](#).

2. Connect the cables

- 2.1. Connect Catchbox Hub DSP to your video-conferencing computer using the included USB-C cable. It'll provide power to the Hub DSP and send two-way audio to the computer.
- 2.2. **Active loudspeakers** - use appropriate cables to connect your active loudspeakers to "3-PIN L" (Left) and 3-PIN R" (Right) outputs. If necessary, use Catchbox XLR-3PIN Output Adapters (purchased separately).
- 2.3. **Media device** - use appropriate cable to connect your media device to the 3-PIN FLEX 1 port (balanced audio). If necessary, use Catchbox XLR-3PIN Input Adapters (purchased separately).

Note: for stereo audio applications you can use two inputs by repeating the above step with FLEX 2 port.

- 2.4. Alternatively you can connect your media device to the AUX IN input port (3.5mm stereo connector).



3. Configure your Catchbox Hub DSP

- 3.1.** Set Hub DSP to operate in “Speakerphone mode”. It’ll set USB audio to be recognized as both “Microphone” and “Loudspeaker” on the video-conferencing computer.

GLOBAL SETTINGS → SYSTEM → USB DEVICE MODE →
SPEAKERPHONE

- 3.2.** Configure FLEX ports to operate as inputs

GLOBAL SETTINGS → SYSTEM → FLEX MODE → INPUT

- 3.3.** Configure FLEX 1 port to MEDIA MODE

OUT → FLEX → FLEX 1 → CHANNEL SETTINGS → MEDIA MODE

NB! It is recommended to route the media signals to bypass the Automixer (MEDIA MODE). If your external device is a microphone, it is recommended to route it via the Automixer (MICROPHONE MODE).

- 3.4.** Configure audio mix for video-conference on USB OUT

OUT → MIXOUT → USB OUT → CHANNEL SETTINGS → MIX
CONFIGURATION →
→ MIC 1-4 ENABLED
→ FLEX IN 1 ENABLED

or

→ AUX IN ENABLED



NB! Set all other signals to DISABLED.

3.5. Configure audio mix for loudspeakers on MIXOUT 3-PIN

OUT → MIXOUT → 3-PIN → CHANNEL SETTINGS → MIX
CONFIGURATION
→ MIC 1-4
→ USB-IN ENABLED
→ FLEX IN 1 ENABLED

or

→ AUX IN ENABLED

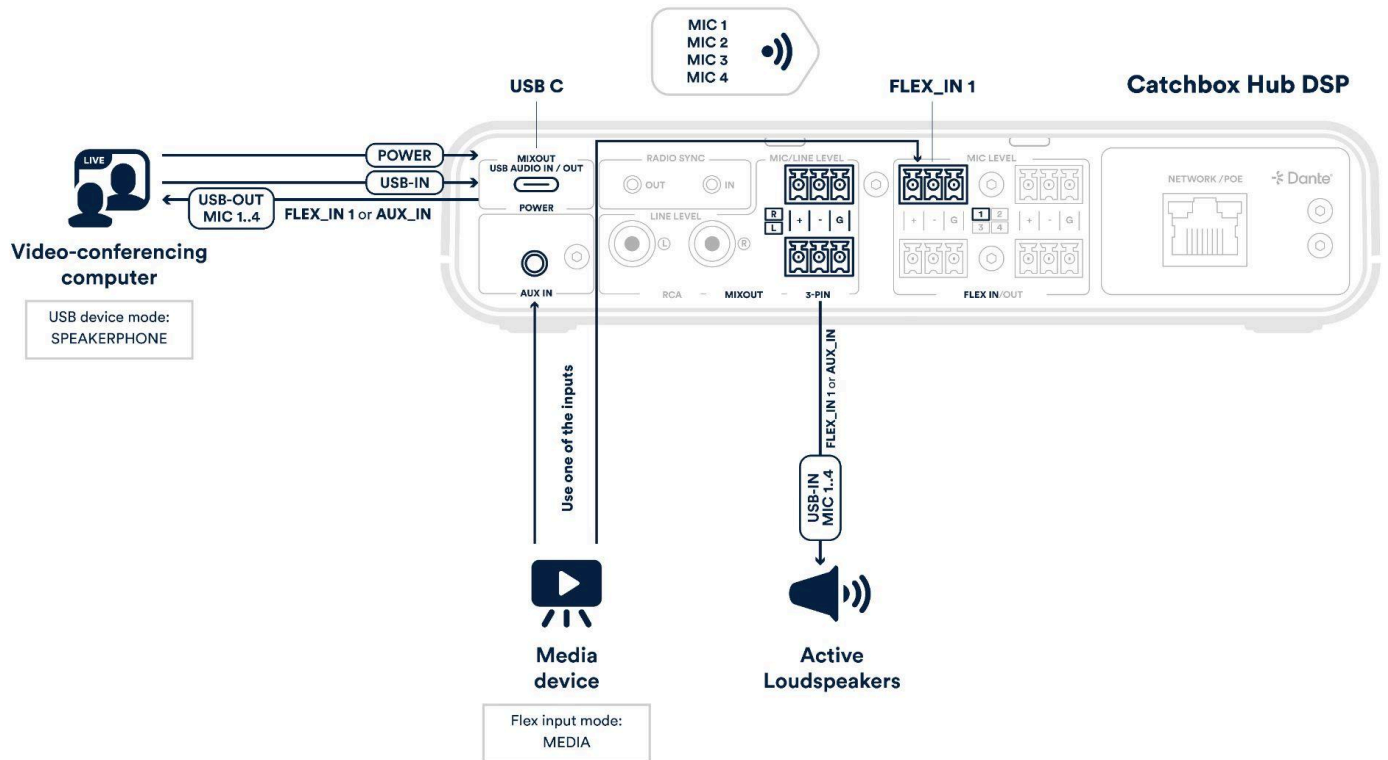
NB! Set all other signals to DISABLED.

4. Configure your video-conferencing computer

- 4.1.** In the computer's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the OS).
- 4.2.** In the video-conferencing platform's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the platform).



Wiring and mix diagram

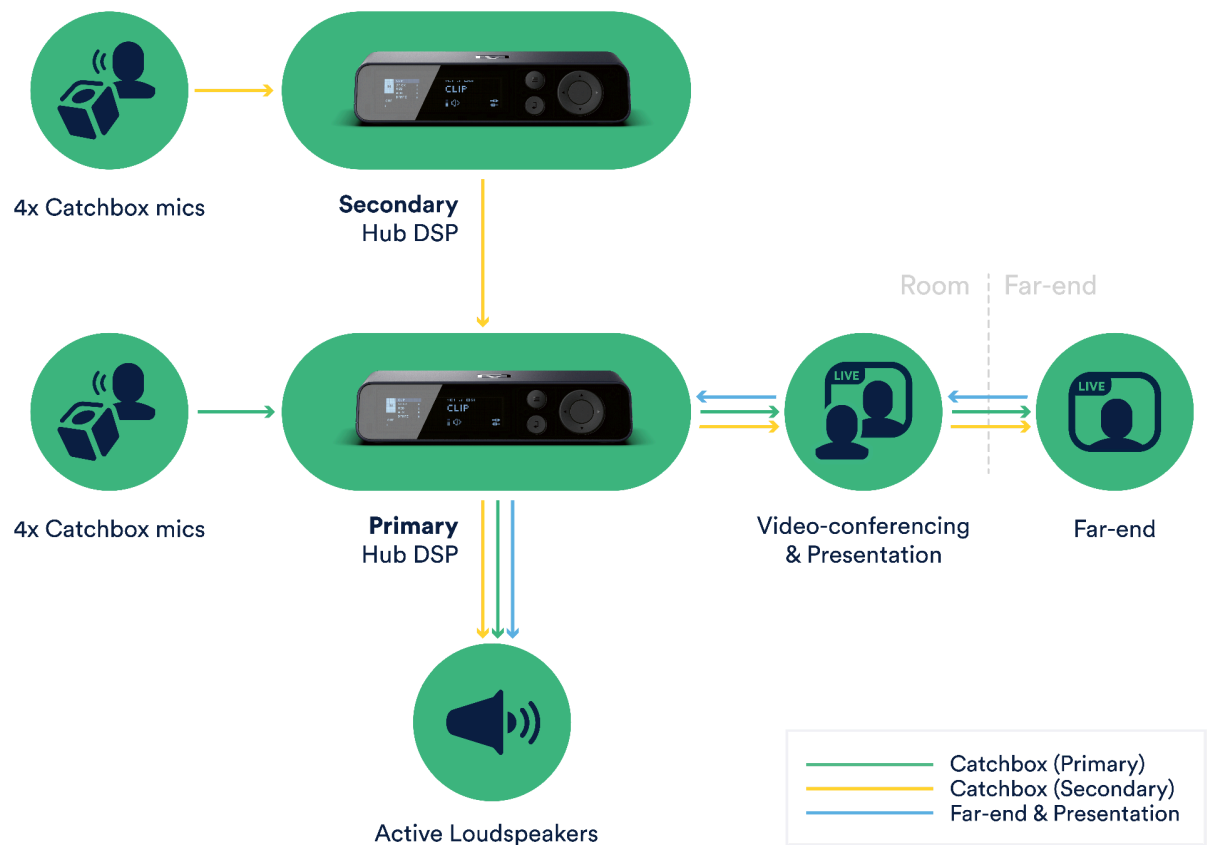




Catchbox Plus with 8 microphones (Daisy-chaining of two Hubs)

What will you get?

- All audio flows mixed and managed from Catchbox Hub DSP
- Catchbox mic audio and far-end audio amplified in the room
- Eight Catchbox microphones automixed on a single audio feed for video-conferencing





What will you need?

- Two Catchbox Plus systems with microphones

NB! IN this scenario we will use the following naming for the Hubs:

- **Primary** - connected to the video-conferencing computer
 - **Secondary** - connected to the Primary
- Catchbox 3pin-to-3pin cables - 4 pcs (purchased separately)
 - Video-conferencing computer

Step-by-step instructions

1. Ensure all Catchbox mics are paired with the Hub.

- 1.1.** In most cases, the mics are pre-paired before shipping.
However, if pairing is required, follow the instructions in this [Knowledge Base article](#).

2. Connect the cables

- 2.1.** USB for Primary - connect your Primary Hub DSP to your video-conferencing computer using the included USB-C cable to provide power and audio connection.
- 2.2.** USB for Secondary - connect your Secondary Hub DSP to a power source using the included Catchbox USB-C Power Adapter

3. Configure your Primary Hub

- 3.1.** Configure FLEX ports to operate as inputs

GLOBAL SETTINGS → SYSTEM → FLEX MODE → INPUT



3.2. Configure all FLEX ports to MICROPHONE MODE

IN → FLEX → FLEX 1..4 → CHANNEL SETTINGS → MICROPHONE MODE

NB! It is recommended to route the microphone signals via the Automixer (MICROPHONE MODE). If your external device is a media signal (music, soundtrack etc), it is recommended to route it bypassing the Automixer (MEDIA MODE).

3.3. Configure audio mix for video-conference on USB OUT (MIXOUT)

OUT → MIXOUT → USB OUT → CHANNEL SETTINGS → MIX
CONFIGURATION →
MIC 1-4, ENABLED
FLEX IN 1-4 ENABLED

NB! Disable all other signals.

Note: Due to subsequent digital-analog-digital signal conversions, microphones connected to the Secondary Hub will be slightly louder. To mitigate the difference adjust the Input Gain settings on the Primary Hub for all FLEX inputs to -5dB

IN → FLEX → CHANNEL SETTINGS → GAIN → -5dB

4. Configure your Secondary Hub

4.1. Configure FLEX ports to operate as outputs

GLOBAL SETTINGS → SYSTEM → FLEX MODE → OUTPUT



- 4.2. Make sure that for all FLEX output channels the "CHANNEL CLONING" setting is "DISABLED"

OUT → FLEX → CHANNEL SETTINGS → CHANNEL CLONING →
DISABLED

5. Connect the audio cables in both Hubs

- 5.1. Before connecting the cables - disconnect the USB power from both Hubs

NB! There is no risk of losing the saved settings - the Hubs will store them in the permanent memory that is not erased by power cycling.

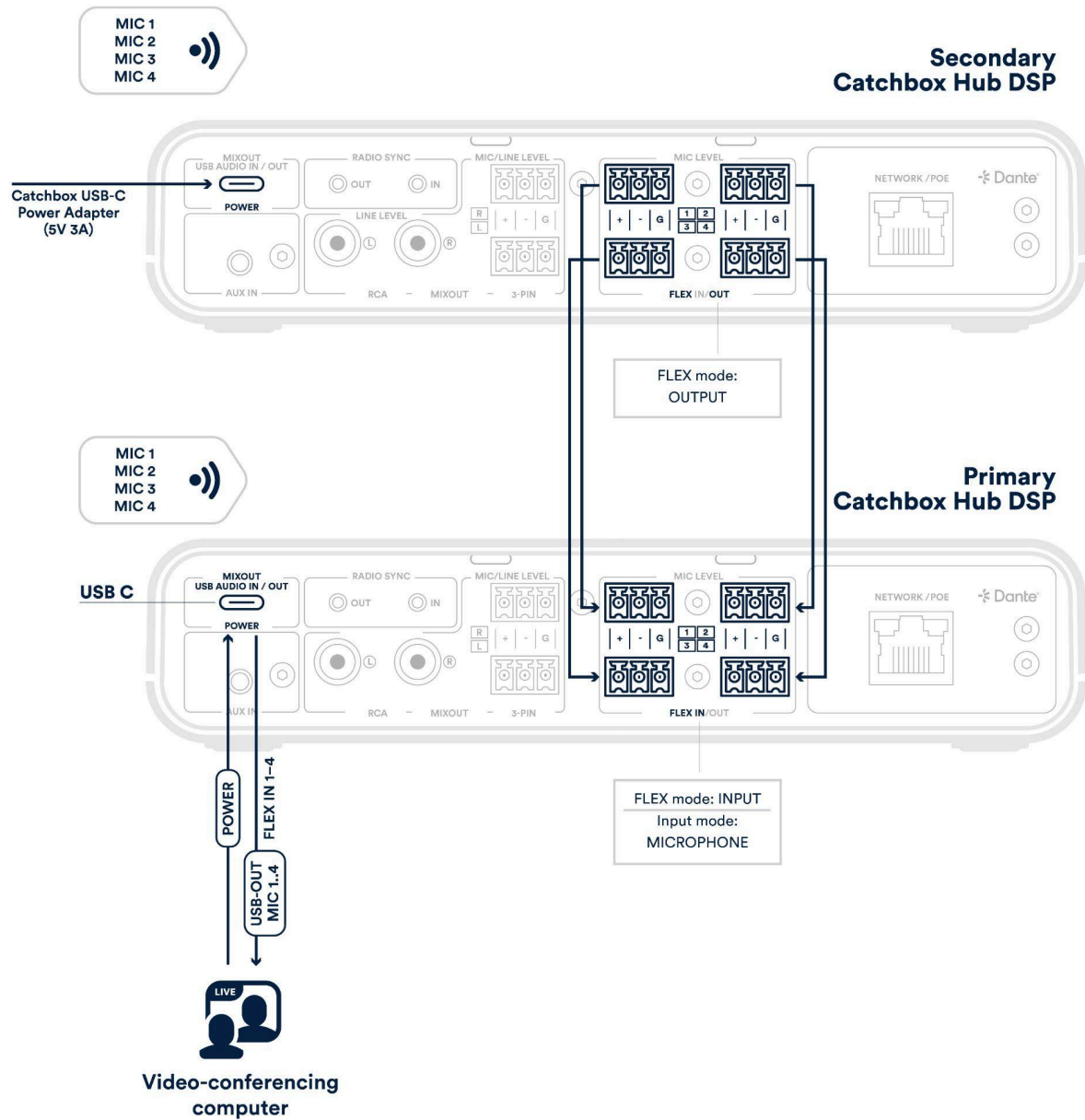
- 5.2. Connect the 3pin connectors - use Catchbox 3pin-to-3pin cables to connect FLEX 1 port on the Primary with FLEX 1 port on the Secondary, FLEX 2 on Primary with FLEX 2 on Secondary and so on.
- 5.3. Connect the USB connectors to power both devices.

6. Configure your video-conferencing computer

- 6.1. In the computer's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the OS).
- 6.2. In the video-conferencing platform's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the platform).



Wiring and mix diagram

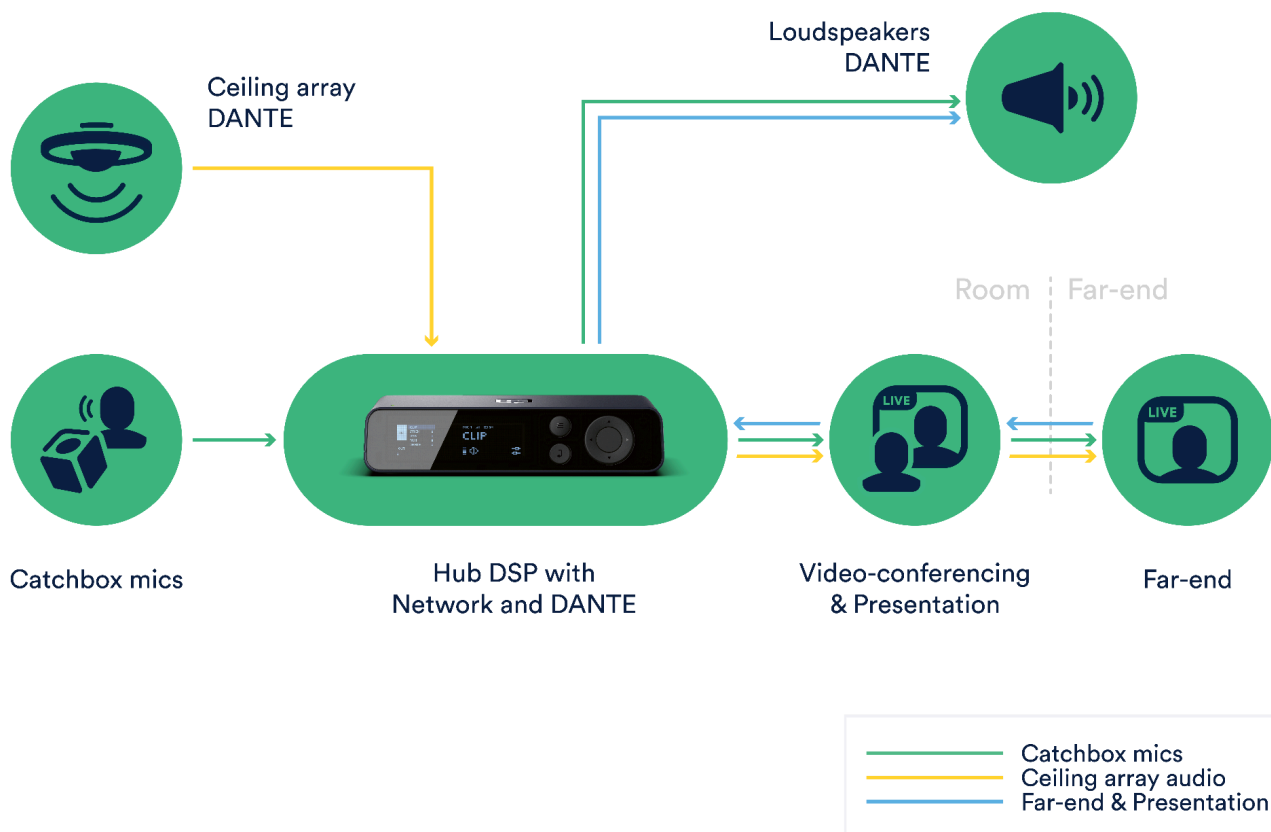




Catchbox Plus for video-conferencing with ceiling microphone and loudspeakers over DANTE

What will you get?

- All audio flows mixed and managed from Catchbox Hub DSP
- Catchbox mic audio and far-end audio amplified in the room
- Catchbox mic audio and ceiling array audio automixed and sent to far-end
- Ceiling array and loudspeaker audio transport over DANTE





What will you need?

- Catchbox Plus system with Networking Module
- DANTE audio network infrastructure
- Video-conferencing computer (USB Audio connection to Hub DSP)
- Ceiling array and loudspeakers (DANTE connection to Hub DSP)

Step-by-step instructions

1. Ensure all Catchbox mics are paired with the Hub.

- 1.1.** In most cases, the mics are pre-paired before shipping. However, if pairing is required, follow the instructions in this [Knowledge Base article](#).

2. Connect the cables

- 2.1.** USB - connect Catchbox Hub DSP to your video-conferencing computer using the included USB-C cable. It'll provide power to the Hub DSP and send two-way audio to the computer.
- 2.2.** Network cable - connect Catchbox Hub DSP's network port to your DANTE network. If PoE is enabled on your network switch, it is automatically set as a primary power source in Catchbox Hub.

3. Configure your Catchbox Hub DSP

- 3.1.** Set Hub DSP to operate in "Speakerphone mode". It'll set USB audio to be recognized as both "Microphone" and "Loudspeaker" on the video-conferencing computer.

GLOBAL SETTINGS → SYSTEM → USB DEVICE MODE
→SPEAKERPHONE



3.2. Configure DANTE IN 1 port to MICROPHONE MODE

IN → DANTE → DANTE 1 → CHANNEL SETTINGS → MICROPHONE MODE

3.3. Configure audio mix for video-conference on USB OUT

OUT → MIXOUT → USB OUT → CHANNEL SETTINGS → MIX CONFIGURATION →
→ MIC1-4 → ENABLED
→ DANTE IN CH 1 → ENABLED

NB! Disable all other signals.

3.4. Configure audio mix for loudspeakers on MIXOUT 3-PIN

Note: Even MIXOUT 3-PIN output is not used, this configuration step is necessary for Feedback Suppression algorithm to be applied on Dante outputs.

OUT → MIXOUT → 3-PIN → CHANNEL SETTINGS → MIX CONFIGURATION
→ MIC 1-4 → ENABLED
→ USB IN → ENABLED

NB! Disable all other signals.

3.5. Configure audio mix for ceiling array's AEC reference signal on DANTE_OUT 1

OUT → DANTE → CH1 → CHANNEL SETTINGS → MIX CONFIGURATION →
USB_IN → ENABLED

NB! Disable all other signals.

3.6. Clone 3-PIN audio mix for Dante-enabled loudspeakers on DANTE_OUT 2 and 3



OUT → DANTE → CH2 → CHANNEL SETTINGS →
→ CHANNEL CLONING → ENABLED
→ CLONING SOURCE → 3PIN LEFT

OUT → DANTE → CH3 → CHANNEL SETTINGS →
→ CHANNEL CLONING → ENABLED,
→ CLONING SOURCE → 3PIN RIGHT

4. **Configure your DANTE network**

4.1. Access Hub's network settings in

GLOBAL SETTINGS → NETWORK

5. **Route signals in your DANTE Controller**

5.1. Route Catchbox Transmitter CH1 to the ceiling microphone's input AEC reference channel

5.2. Route the ceiling microphone's Transmitter channel to Catchbox Receiver CH1

5.3. Route Catchbox Transmitter CH2 to your Left loudspeaker

5.4. Route Catchbox Transmitter CH3 to your Right loudspeaker

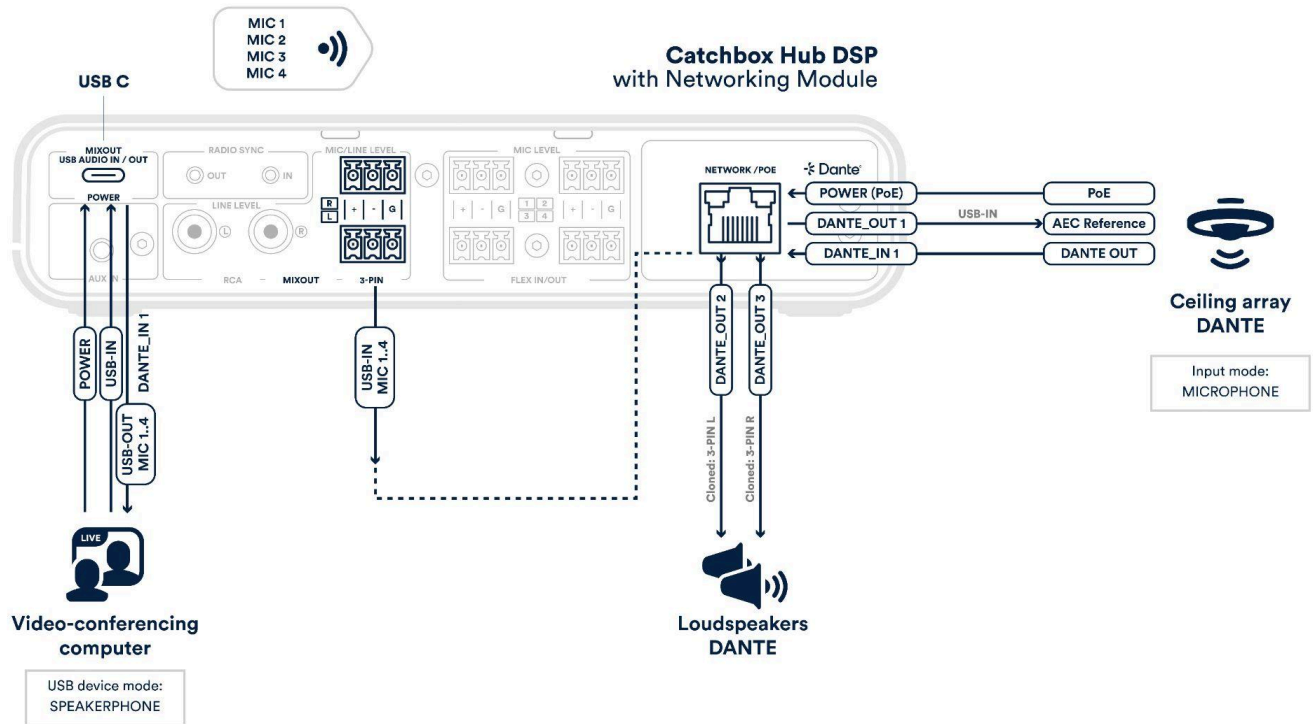
6. **Configure your video-conferencing computer**

6.1. In the computer's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the OS).

6.2. In the video-conferencing platform's audio settings select "Catchbox Hub DSP" as a source of "Microphone" and "Loudspeaker" (depending on the platform).



Wiring and mix diagram

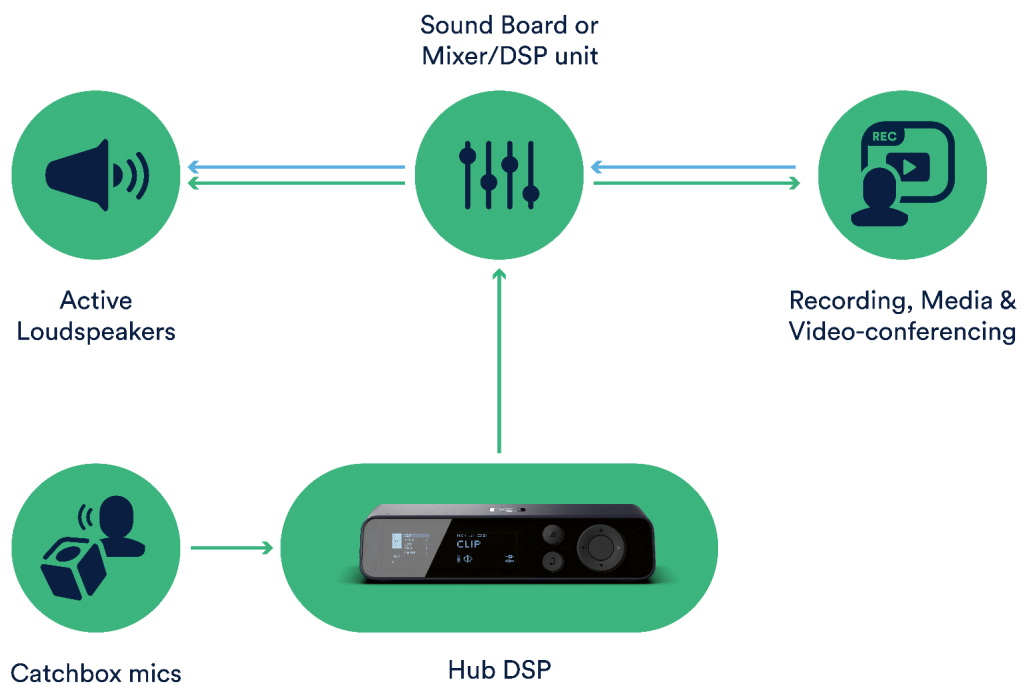




Catchbox Plus for events and installations with external mixer over analog or DANTE

What will you get?

- Audio flows are managed by an external mixer board or DSP unit
- Catchbox operates as a wireless microphone receiver
- External Mixer Board mixes Catchbox microphone audio with the other audio devices
- (Optional) - DANTE





What will you need?

- Catchbox Plus system with microphones
- External Mixer Board or DSP-unit with analog balanced inputs
- (optional) DANTE infrastructure for routing audio to mixer / DSP-unit

Step-by-step instructions

1. Ensure all Catchbox mics are paired with the Hub.

- 1.1. In most cases, the mics are pre-paired before shipping. However, if pairing is required, follow the instructions in this [Knowledge Base article](#).

2. Connect the cables

- 2.1. Audio - connect your Hub DSP's FLEX 1 to 4 ports to appropriate inputs of your sound board, mixer board or DSP-unit. If necessary, use Catchbox "3-pin to XLR-Out Adapters" (purchased separately).
- 2.2. USB Power - connect your Hub DSP to a power source using the included Catchbox USB-C Power Adapter.

3. Configure your Hub DSP

- 3.1. Configure FLEX ports to operate as outputs

GLOBAL SETTINGS → SYSTEM → FLEX MODE → OUTPUT

- 3.2. Make sure that for all FLEX output channels the "CHANNEL CLONING" setting is "DISABLED"

OUT → FLEX → CHANNEL SETTINGS → CHANNEL CLONING →
DISABLED

Note: When FLEX ports are configured as outputs, individual microphone channels MIC 1..4 are automatically routed to individual FLEX outputs FLEX 1..4

- 3.3. Alternatively you can use DANTE OUT 1..4 to route the audio to your mixer or DSP-unit



Wiring and mix diagram

