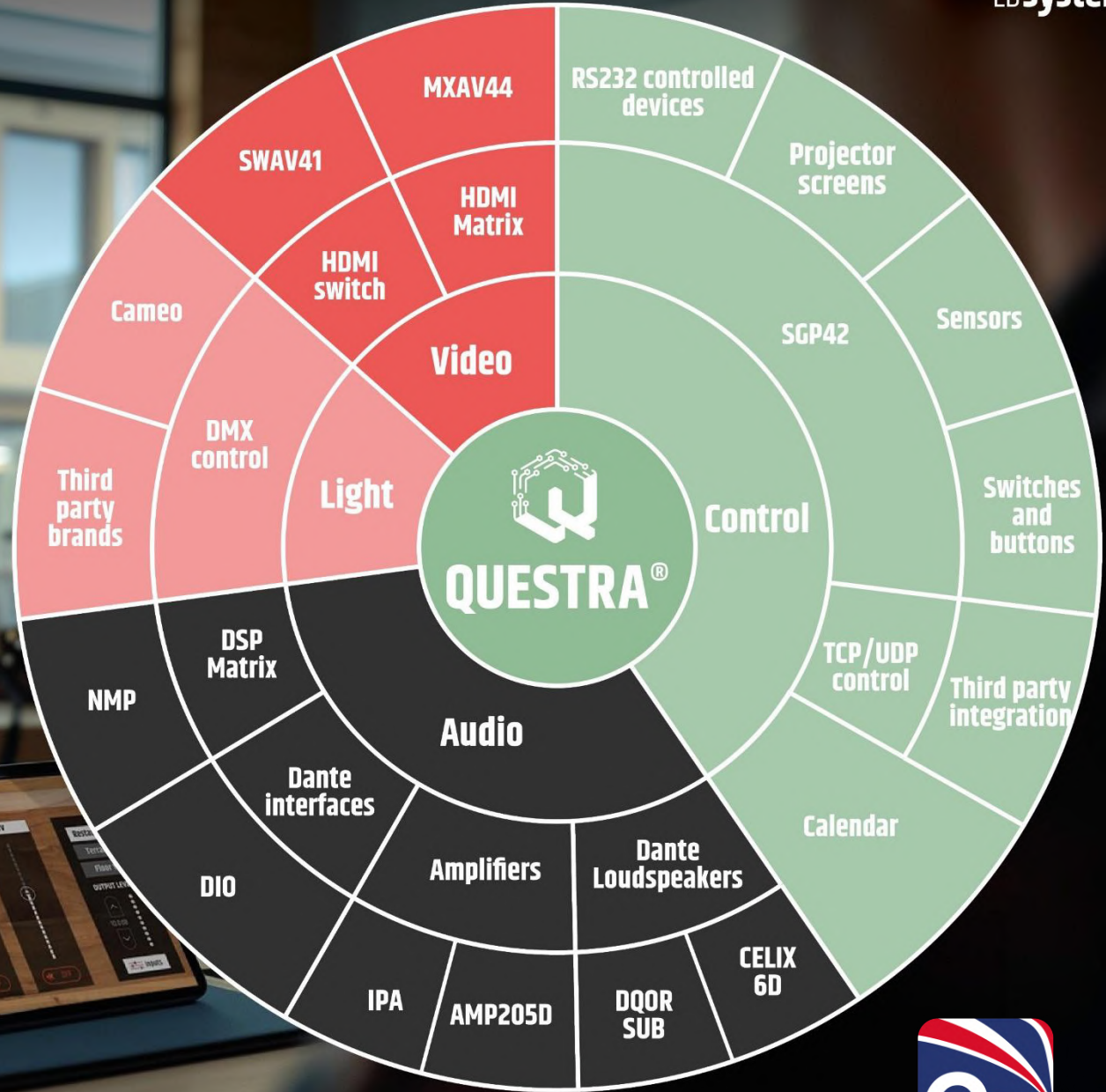


# Controlled by QUESTRA<sup>®</sup>



# LD QUESTRA | Certification program

UNIFIED CONTROL FOR AUDIO, VIDEO, LIGHTING AND 3RD-PARTY DEVICES

## Training facilities:

- Adam Hall HQ – Germany
- Adam Hall Barcelona – Spain
- Adam Hall Showroom space – United Kingdom

Registration: [questra@adamhall.com](mailto:questra@adamhall.com)



120 companies certified



Official Roll-out: ISE Feb.26

LDsystems LD

QUESTRA®  
Certified  
Level 1

BARCELONA

QUESTRA®  
CERTIFICATION  
LEVEL 1

MONDAY, FEBRUARY 2<sup>ND</sup> 2026  
9.00 – 16.00 TRAINING

ADAM HALL SHOWROOM BARCELONA  
Carrer Ramon Turro 124, 08005 Barcelona, Spain

REGISTER HERE:  
[questra@adamhall.com](mailto:questra@adamhall.com)

provided by **adam hall** INTEGRATED SYSTEMS

LDsystems LD

QUESTRA®  
Certified  
Level 2

BARCELONA

QUESTRA®  
CERTIFICATION  
LEVEL 2

THURSDAY, FEBRUARY 5<sup>TH</sup> 2026  
10.00 – 17.00 TRAINING

Once the event is fully booked, we will offer another Level 2 training on Friday, February 6th at the Adam Hall Showroom in Barcelona.

ADAM HALL SHOWROOM BARCELONA  
Carrer Ramon Turro 124, 08005 Barcelona, Spain

REGISTER HERE:  
[questra@adamhall.com](mailto:questra@adamhall.com)

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# QUESTRA® Certification program



AH IN Training Days DACH  
AH IN Training Days FRANCE



# LD QUESTRA v1.4 | Expanding Integration Power

Key Innovations to Elevate the AV Control Experience

## Unified Native Control – Expanded Device Support

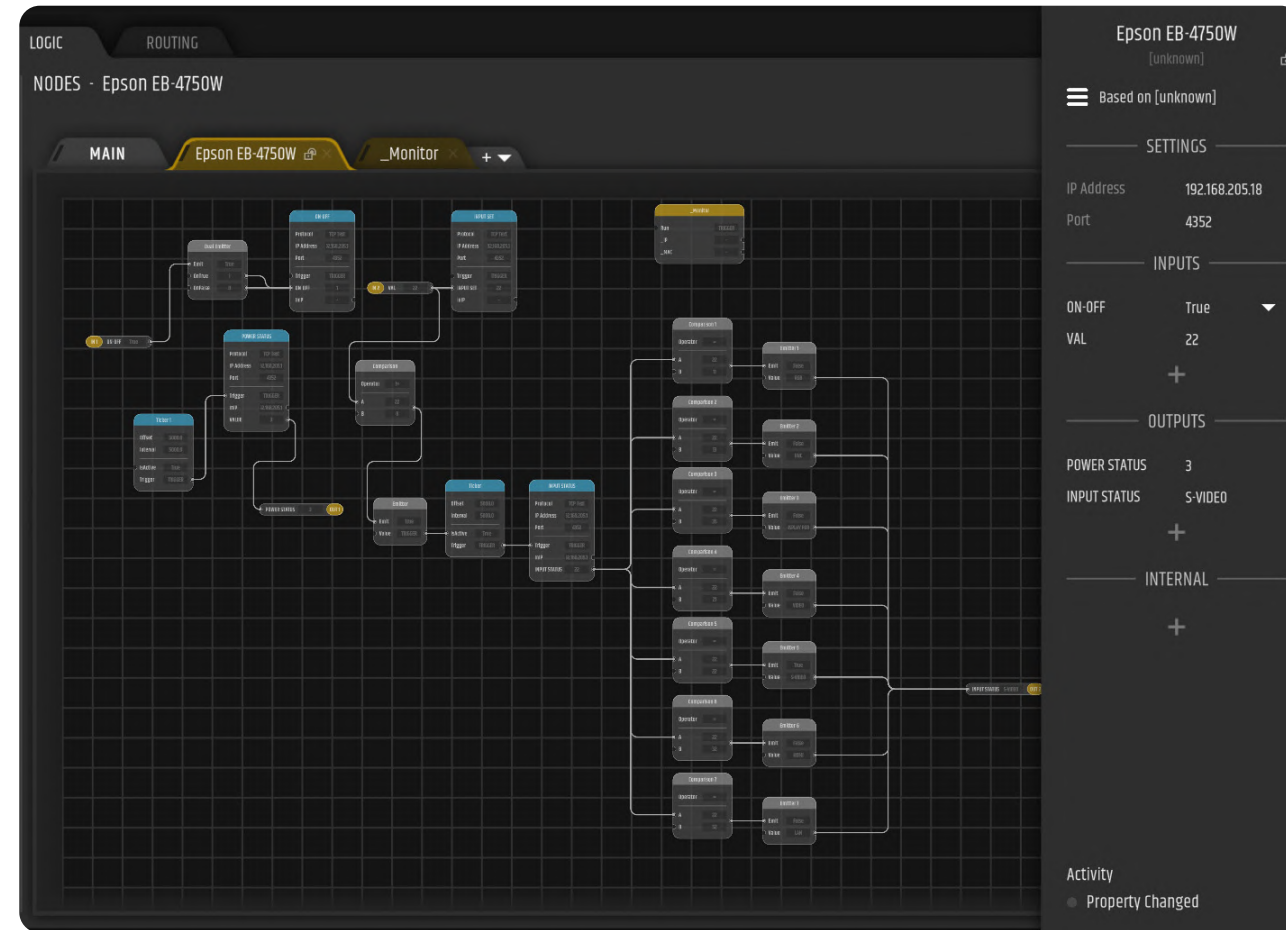
Direct integration for LD Systems' latest audio, video, and I/O devices on a single platform.

## Extended Protocol Support

**OSC** added alongside TCP/UDP/HTTP with JSON, ASCII, and binary for maximum compatibility – now with **multicast listener** support for instant status updates, making integrations faster and smarter.

## Virtual Device Revolution

Turn custom logic into reusable **third-party drivers** with advanced discovery and real-time status monitoring.





# QUESTRA v1.4 | Expanding Integration Power

UNIFIED NATIVE CONTROL – EXPANDED DEVICE SUPPORT

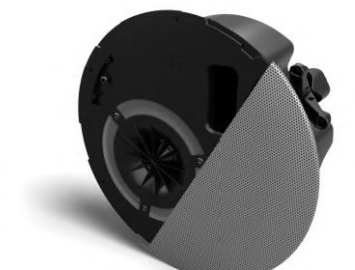
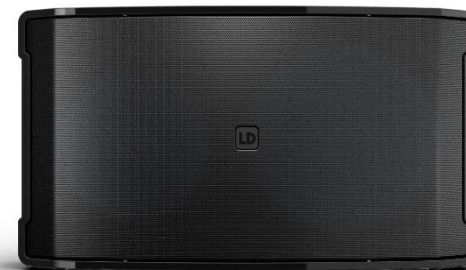
## New Devices Now Integrated:

- **Networked Matrix Processors:** NMP8 and NMP32
- **Control Interfaces:** SGP42
- **Video Switchers:** SWAV41, MXAV44
- **Dante-enabled Devices:** DQORSUB8D, DIO22, DIO44, DIO04, AMP205D, and the new CELIX 6D



## Benefit:

One platform to manage audio, video, and control seamlessly – reducing complexity and speeding up project deployments





# QUESTRA v1.4 | Expanding Integration Power















EXTENDED PROTOCOL SUPPORT

## What is OSC and Why It Matters:

- Modern, flexible protocol for real-time communication for remote control
- OSC messages are human-readable
- Works over IP networks (TCP/UDP)
- Ideal for live events, lighting, and interactive installations
- Evolved compared to MIDI, offering higher precision and flexibility
- OSC is now our official 3rd party control protocol **implemented in networked LD devices**

## Benefit:

- Opens opportunities in **live events, HOW, and entertainment projects** where OSC is standard
- **Easier integration** with lighting and show control systems like **QLab** and **Reaper**
- **Reduces complexity** and saves time for installers
- Competitive Advantage: **Open protocol flexibility**

Lighting	  
Media servers	  
Audio/Stage automation	  
Pro Audio brands	    

# LD QUESTRA v1.4 | Expanding Integration Power

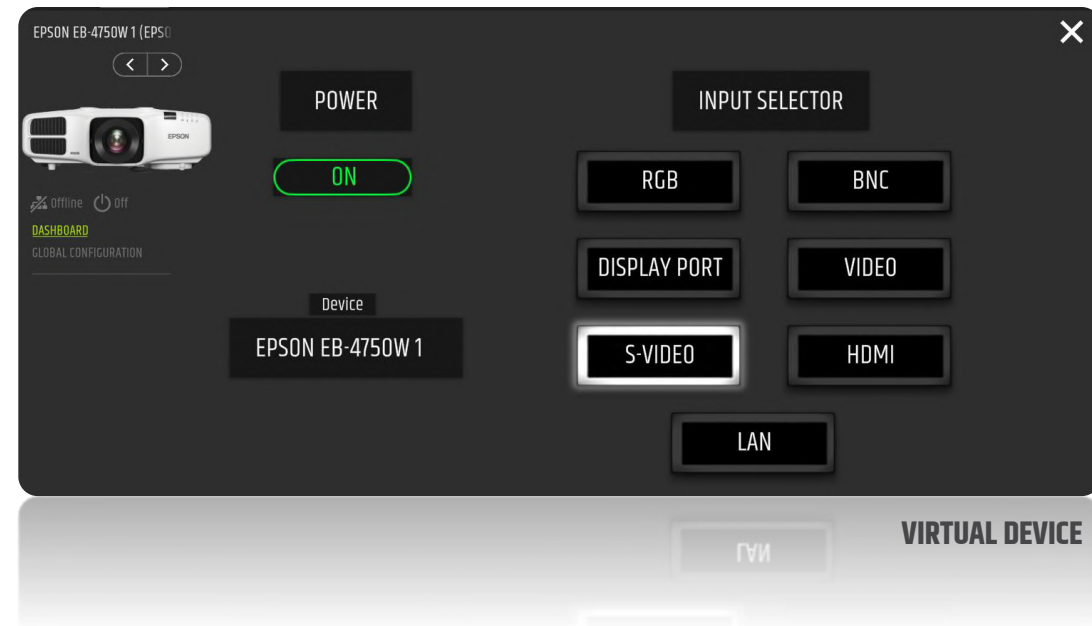
VIRTUAL DEVICE REVOLUTION

## What is a Virtual Device?:

- Software-based representation of a real or custom hardware device
- Behaves like a native QUESTRA device
- Supports automatic discovery via mDNS
- Provides dashboards and menus for control and monitoring
- Packages custom logic or third-party drivers into reusable components
- Can be shared with others or submitted to LD Systems for official inclusion

## Benefit:

- Increased QUESTRA **interoperability**
- Empowers integrators to customize and extend the ecosystem
- Drives **community-driven growth** and faster device support



# LD QUESTRA v1.4 | Expanding Integration Power

VIRTUAL DEVICE VS USER NODES

## User Nodes:

- Manual IP setup per project
- Managed via Logic tab
- No automatic discovery
- Exportable and shareable

## Virtual Devices

- Behave like native QUESTRA devices
- Automatic discovery via mDNS
- Support dashboards and menus
- Shareable or submit for official inclusion

The screenshot displays the QUESTRA v1.4 interface for configuring a virtual device. The main workspace shows a grid with a central node titled 'Epson EB-4750W'. This node has four input/output pairs: ON-OFF (True), VAL (22), POWER STATUS (3), and INPUT STATUS (S-VIDEO). The interface includes tabs for LOGIC and ROUTING, and a 'NODES - MAIN' section with sub-tabs for MAIN, Epson EB-4750W, and \_Monitor. On the right, a settings panel for 'Epson EB-4750W' shows configuration details: IP Address (192.168.205.18), Port (4352), ON-OFF (True), VAL (22), POWER STATUS (3), and INPUT STATUS (S-VIDEO). A 'USER NODES' section at the bottom right shows a list of nodes, including 'Epson EB-4750W' with a '2 ADDED' status.



# QUESTRA v1.4 | Expanding Integration Power

VIRTUAL DEVICE VS USER NODES

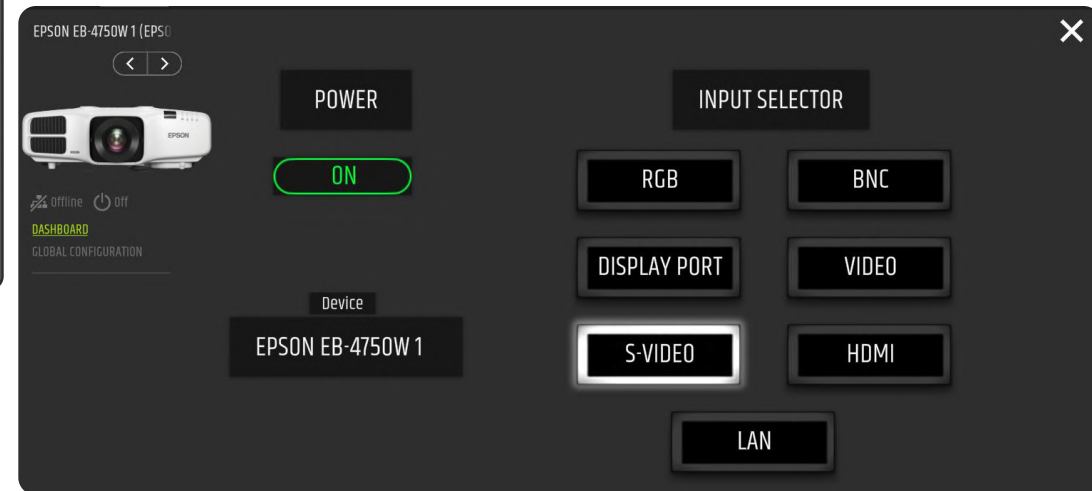
## User Nodes:

- Manual IP setup per project
- Managed via Logic tab
- No automatic discovery
- Exportable and shareable

## Virtual Devices

- Behave like native QUESTRA devices
- Automatic discovery via mDNS
- Support dashboards and menus
- Shareable or submit for official inclusion

Type	Model	Manufacturer
-	EPSON EB-4750W	Epson
MXAV 44		LD Systems
NMP 32		LD Systems
NMP 8		LD Systems
SGP 42		LD Systems
SWAV 41		LD Systems
QUESTRA Panels		LD Systems
AMP 205 D		LD Systems
DI004		LD Systems
DI022		LD Systems
DI044		LD Systems
IPA412T		LD Systems
IPA412T		LD Systems
IPA424T		LD Systems
IPA424T		LD Systems
MSMP		LD Systems



LAN

VIRTUAL DEVICE

# LD TIVA<sup>®</sup> series | SGP 42

SERIAL AND GPIO TO ETHERNET INTERFACE

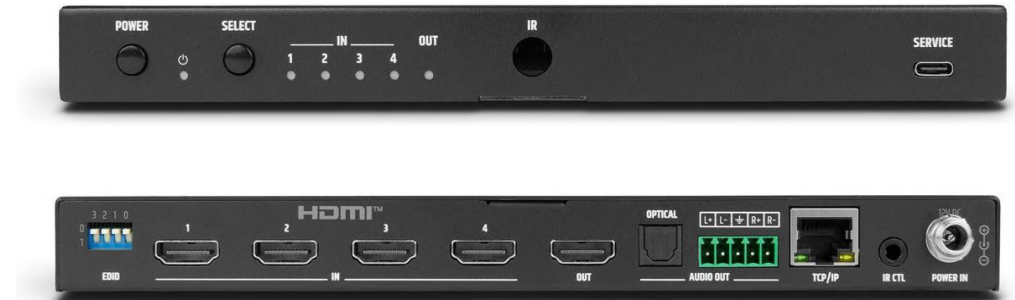
- 4 configurable digital GPIO ports.
  - Input mode, for connection of external dry contacts
  - Output mode, with TTL outputs.
- 2 relays, Normally Open
- RS232 port with terminal block connector 3-pin (TX, RX, GND)
- Ethernet port for remote control and integration into QUESTRA
- PoE powered device
- 5-24 VDC power input with terminal block for optional external power supply
- Very compact format: 95mm [W] × 68mm [D] × 17mm [H]
- Included accessories for surface mount



# LD TIVA® series | SWAV 41

8K HDMI™ 4X1 SWITCHER AND AUDIO EXTRACTOR

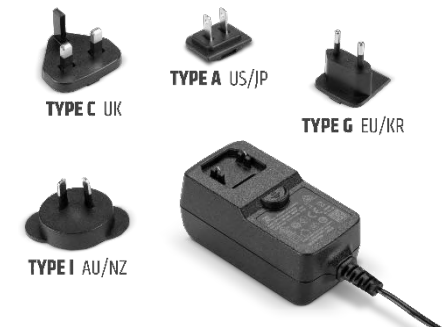
- **Superior Video Resolution:** Supports 8K@60Hz (4:2:0, 12-bit) and 4K@120Hz (4:4:4, 12-bit) for stunning visual clarity
- **HDMI™ 2.1 and HDCP 2.3/1.4** compliant with **48 Gbps** bandwidth
- **Comprehensive HDR (High Dynamic Range) video support:** Compatible with HDR, HDR10, HDR10+, Dolby Vision, ALLM, and VRR for superior image quality.
- **Flexible EDID Management:** Supports advanced EDID management for optimal compatibility between sources and displays.
- **Enhanced Signal Processing:** Includes built-in signal equalizer, retiming, and driver for optimal performance.
- **Audio De-Embedding:** Features digital and analog audio output with gain control
- **Versatile Audio Pass-Through:** Handles LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, and DSD formats.
- **Flexible Control Options:** Manage via front panel buttons, IR remote, and Ethernet for seamless integration.
- **Efficient Switching Modes:** Offers both auto and manual switching
- **Integrated Signal Generator:** ideal for testing and troubleshooting



# LD TIVA<sup>®</sup> series | MXAV 44

4K/60 HDMI™ 4X4 MATRIX SWITCHER AND AUDIO DE-EMBEDDER

- **HDMI 2.0 Compliance:** Fully compliant with HDMI 2.0, HDCP 2.2/1.4, and DVI 1.0 standards.
- **Superior Video Resolution:** Supports up to 4K60 (YUV 4:4:4) resolution for crystal-clear visuals.
- **High Bandwidth:** Handles 18Gbps video bandwidth, ensuring smooth and high-quality video transmission.
- **Individual Output Scaling:** Each of the four outputs can be individually scaled from 4K to 1080p, providing flexibility for different display requirements.
- **Advanced Audio De-Embedding:** Extracts audio to analog L/R and coaxial ports for versatile audio output options.
- **ARC Functionality:** Audio Return Channel (ARC) allows display device audio to be returned to the coaxial port output.
- **Comprehensive EDID Management:** Supports advanced EDID management for optimal compatibility between sources and displays.
- **Multiple Control Methods:** Offers control via front panel, RS-232, IR remote, and TCP/IP, including a built-in Web GUI for TCP/IP control.



# LD TIVA<sup>®</sup> series | DUSB 22

2X2 USB-C TO DANTE INTERFACE

- **Bidirectional Audio:** 2x2 channels of Dante<sup>®</sup> to USB-C conversion
- **Plug & Play:** Compliant with USB Audio Device Class 2.0
- **High-Resolution Audio:** Supports 48 / 96 kHz sample rates at 24-bit
- **Ultra-Low Latency:** Configurable 1, 2, or 5 ms via Dante<sup>®</sup> Controller
- **Interoperability:** AES67 RTP audio transport supported
- **Flexible Power Options:** Powered via PoE (Class 1, IEEE 802.3af) or local USB-C
- **Instant Network Audio:** No software installation required—simply connect and stream audio to the Dante network.



# LD TIVA® series | SPAV 14

8K HDMI™ 1X4 SPLITTER AND AUDIO EXTRACTOR

- **1x4 HDMI™** splitter for distributing one 8K signal to four displays
- **Superior Video Resolution:** Supports 8K@60Hz (4:2:0, 12-bit) and 4K@120Hz (4:4:4, 12-bit) for stunning visual clarity
- **HDMI™ 2.1 and HDCP 2.3/1.4** compliant with **48 Gbps** bandwidth
- **Comprehensive HDR Support:** Passes through HDR, HDR10, HDR10+, Dolby Vision, and HLG for superior image quality.
- **HDR-to-SDR conversion** Automatically converts HDR to SDR on all outputs for optimal display performance.
- **Auto Downscaling:** Automatically downscales 8K to 4K or 8K/4K to 1080p on all outputs for compatibility with various displays.
- **EDID management** for optimal compatibility between sources and displays.
- **Audio de-embedding:** Dolby/DTS 5.1 (S/PDIF), LPCM 2.0 (mini-jack)
- **Versatile Audio Pass-Through:** Handles LPCM 7.1CH, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, and DTS:X formats





# TICA NMP 8 | Networked Matrix Processor

8X8 DSP MATRIX WITH 4 ANALOG I/O AND 4X4 AES67 CHANNELS

- **8x8 DSP mixing matrix** with per-output switchable auto-mixing mode
- **4 balanced mic/line inputs and 4 balanced line outputs**
- **4x4 AES67 network audio channels**
- **Hybrid DSP architecture**, configurable in LD Systems' QUESTRA® software
- **Advanced DSP modules:**
  - EQ (Up to 16-band)
  - Delay (up to 2s)
  - Dynamics: Limiter, Compressor, Noise Gate, Ducker
  - Auto-Mixing (Gain Sharing/Threshold)
  - Feedback Suppression
  - Filters: High-pass/Low-pass, FIR filters (up to 4096 taps)
  - AEC with AGC and Noise Suppression
  - Signal Generator
- **Switchable 48V phantom power** per input
- **Silent operation** with convection cooling design
- **Compact 1/3 rack unit (TICA series)**, compatible with TICA rack tray
- **Scalable with other NMP devices** for distributed AV systems





# TICA NMP 32 | Networked Matrix Processor

32X32 DSP MATRIX WITH 4 ANALOG I/O AND 28X28 AES67 CHANNELS

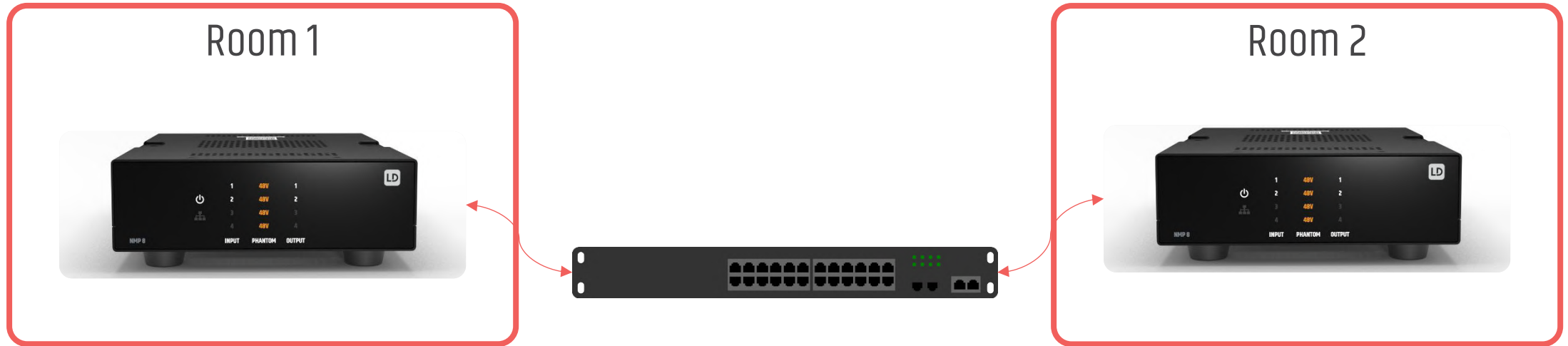
- **32x32 DSP mixing matrix** with per-output switchable auto-mixing mode
- **4 balanced mic/line inputs and 4 balanced line outputs**
- **28x28 AES67 network audio channels**
- **Hybrid DSP architecture**, configurable in LD Systems' QUESTRA® software
- **Advanced DSP modules:**
  - EQ (Up to 16-band)
  - Delay (up to 2s)
  - Dynamics: Limiter, Compressor, Noise Gate, Ducker
  - Auto-Mixing (Gain Sharing/Threshold)
  - Filters: High-pass/Low-pass, FIR filters (up to 4096 taps)
  - Signal Generator
- **Switchable 48V phantom power** per input
- **Silent operation** with convection cooling design
- **Compact 1/3 rack unit (TICA series)**, compatible with TICA rack tray
- **Scalable with other NMP devices** for distributed AV systems





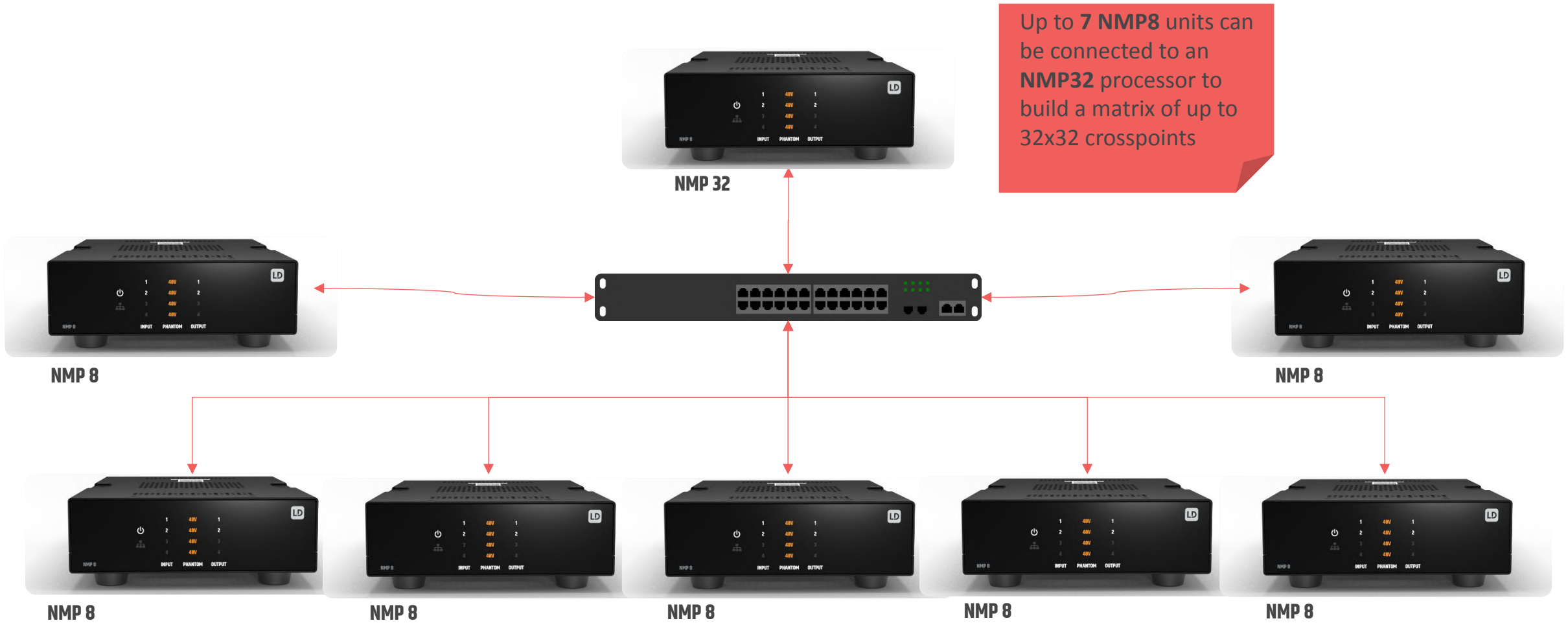
# TICA NMP 8 | Application example

8 X 8 DISTRIBUTED DSP MATRIX



# LD TICA NMP | Application example

32 X 32 DISTRIBUTED DSP MATRIX

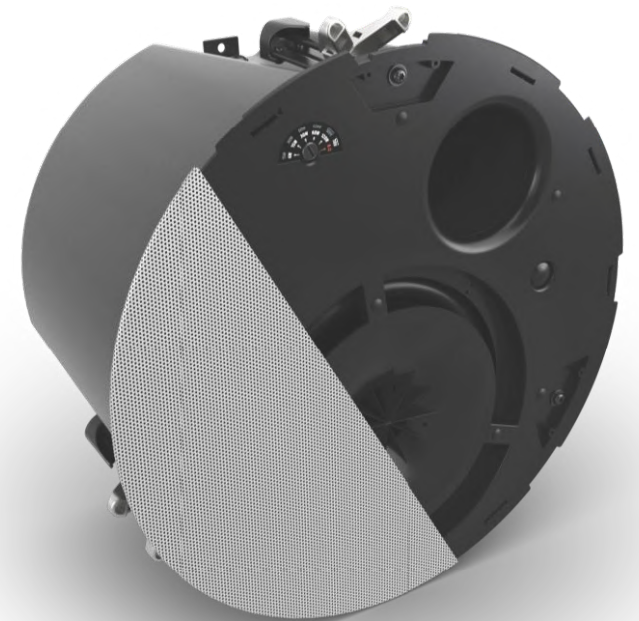




# CELIX<sup>®</sup> Series | Premium Ceiling speakers with Backcan

PREMIUM SOUND FOR PROFESSIONAL AUDIO ENVIRONMENTS. DESIGNED FOR FAST, RELIABLE INSTALLATION

- **Comprehensive Range:** 4", 6", 8" speakers + 8" subwoofer + Dante-enabled active model.
- **Controlled Sound Performance:** Closed metal back-can for predictable audio quality.
- **Rich, Balanced Audio:** Broadband dispersion with bass reflex port.
- **Plug-and-Play Simplicity:** Passive crossover, EQ presets in QUESTRA
- **Seamless Aesthetics:** Frameless grille with paintable finish.
- **Reliable Fit:** Twist and Lock grille system for vibration resistance, outperforming magnets in harsh environments.
- **Voice Alarm Ready:** EN54-24 and UL1480 compliance on selected models.
- **Smart Control:** Managed via QUESTRA for easy configuration (CELIX 6D).
- **Secure Installation:** Includes tile bridge in all models.
- **Flexible Options:** Optional accessories like square or black grilles, new construction bracket and CELIX 4 surface-mount bracket.



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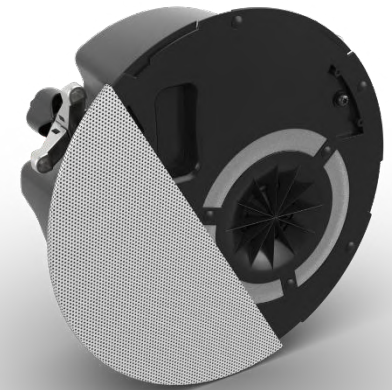
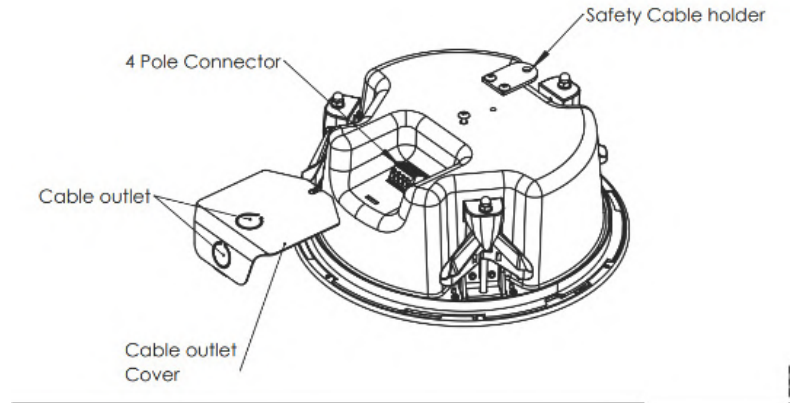
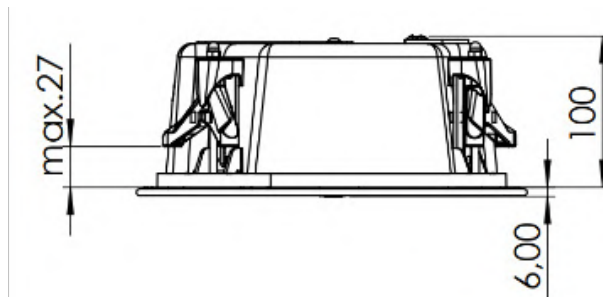
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# CELIX<sup>®</sup> Series | CELIX 4

4" COAXIAL CEILING LOUDSPEAKER WITH LOW-PROFILE BACKCAN

- **Compact Design:** Depth of 100 mm for shallow ceilings.
- **Premium Sound:** Optimized design with bass reflex delivers fuller audio than typical 4" speakers.
- **Versatile Grip:** Maximum grip range of 27 mm for secure mounting.
- **Voice Alarm Ready:** EN54-24 certified for PAVA systems.
- **Seamless Aesthetics:** Frameless grille and discreet branding.
- **Secure Installation:** Includes tile bridge.
- **Reliable Connection:** Phoenix Contact connector for fast, tool-free wiring.
- **Self-Holding Mechanism:** Dog legs fold and expand automatically, holding the speaker in place for easy final tightening.
- **Flexible Options:** Surface-mount bracket available, black and square grilles.



EN  
54-24



# CELIX Series | CELIX 4 Surface mount accessories

Highlights & Benefits

- **Elegant Surface Mount Cover:** Seamlessly integrates with architectural environments.
- **Ideal for Concrete Walls:** Perfect solution where in-ceiling mounting is not possible.
- **Dual Installation Options:** Enables use of the same speaker for both ceiling and surface mount applications.
- **Simplified Inventory:** Only one speaker model to stock — CELIX 4 — with optional accessories for different mounting needs.
- **Flexible Deployment:** Integrators can adapt on-site without needing different SKUs or redesigns.
- **Optional Wood Veneers:** Adds a high-end finish for premium commercial or residential environments.
- **Color options:** available in black and white
- **Consistent Sound Signature:** Maintains identical acoustic performance across installation types.



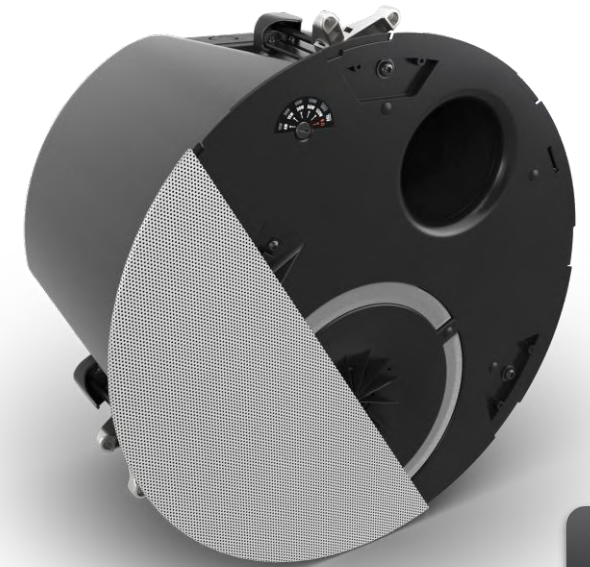
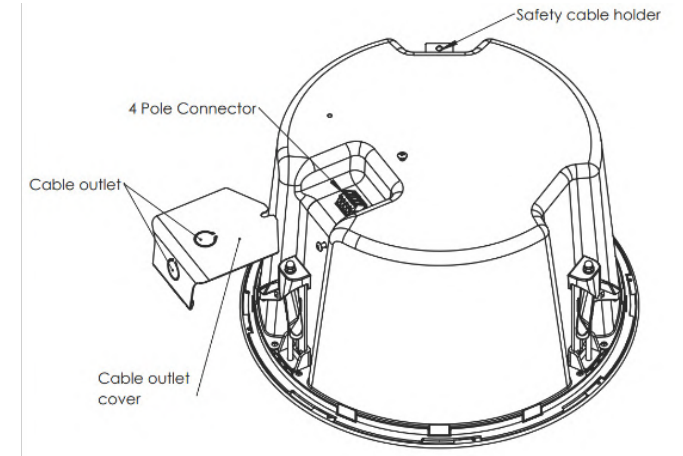
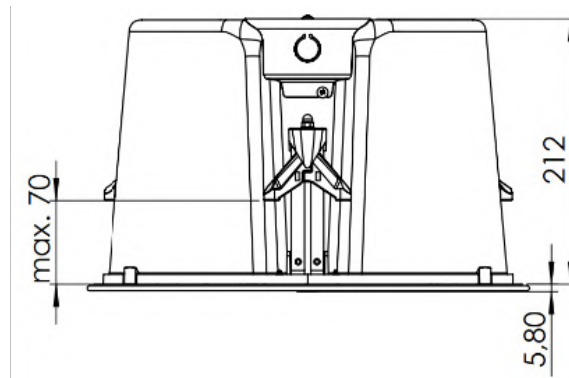
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# CELIX<sup>®</sup> Series | CELIX 6 6"

COAXIAL CEILING LOUDSPEAKER WITH BACKCAN

- **Voice Alarm Ready:** EN54-24 certified for PAVA systems.
- **Premium Audio:** Larger internal volume for rich, controlled sound.
- **Simplified Install:** Twist and Lock grille system and tile bridge included.
- **Extended Grip:** Up to 70 mm for thick ceilings.
- **Seamless Aesthetics:** Frameless grille and discreet branding.
- **Reliable Connection:** Phoenix Contact connector for fast, tool-free wiring.
- **Self-Holding Mechanism:** Dog legs fold and expand automatically, holding the speaker in place for easy final tightening.
- **Flexible Options:** black and square grilles, New construction bracket



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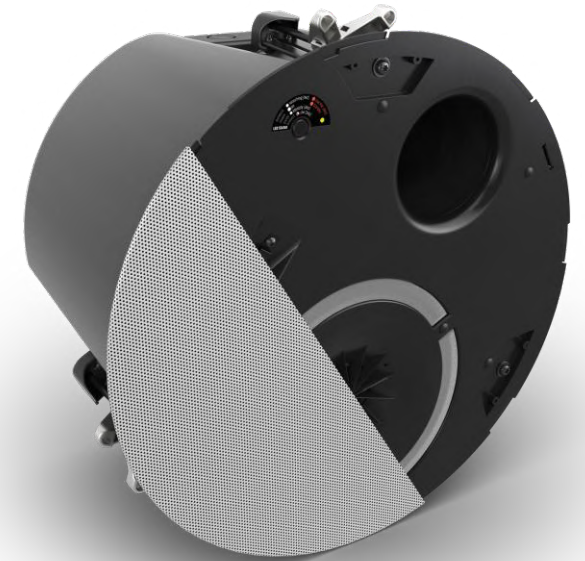


# CELIX<sup>®</sup> Series | CELIX 6D

6" DANTE-ENABLED, POE, COAXIAL CEILING LOUDSPEAKER WITH BACKCAN



- **Network Integration:** Dante & PoE+ connectivity.
- **Built-In Amplification:** Integrated Class-D amplifier.
- **Extra Output:** Secondary amplified output for passive speaker.
- **Smart Control:** Full DSP control + monitoring via QUESTRA.
- **Advanced DSP Features:** Dynamics processing, parametric EQ (PEQ), delay adjustment, volume control for local and external passive speaker, mix matrix and priority ducker for paging or emergency announcements.
- **PoE Class Indicator:** Clear visual feedback for power status and class.
- **OSC remote control:** Ready for 3<sup>rd</sup> party remote control via OCS commands

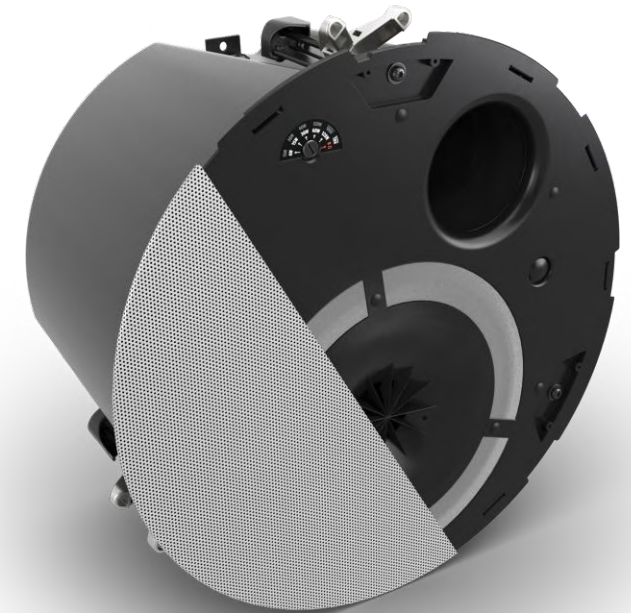
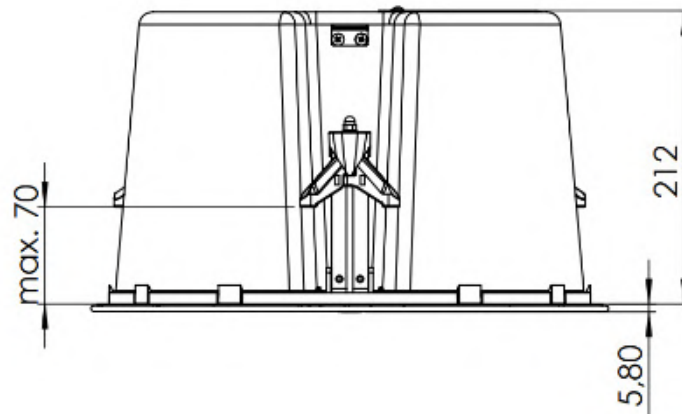
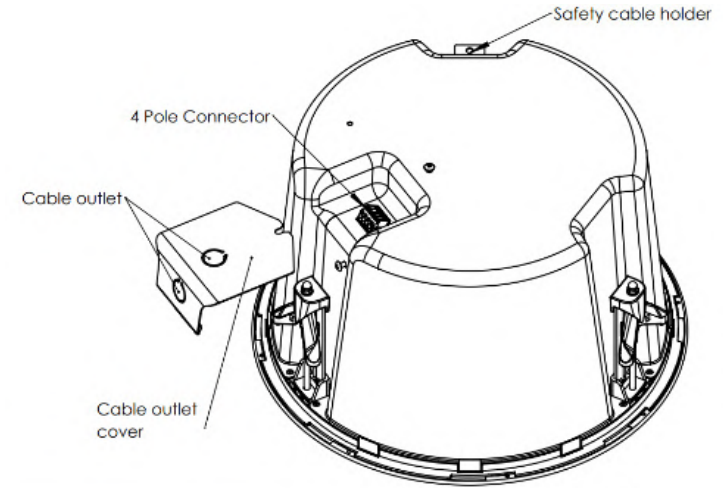




# CELIX<sup>®</sup> Series | CELIX 8 8"

COAXIAL CEILING LOUDSPEAKER WITH BACKCAN

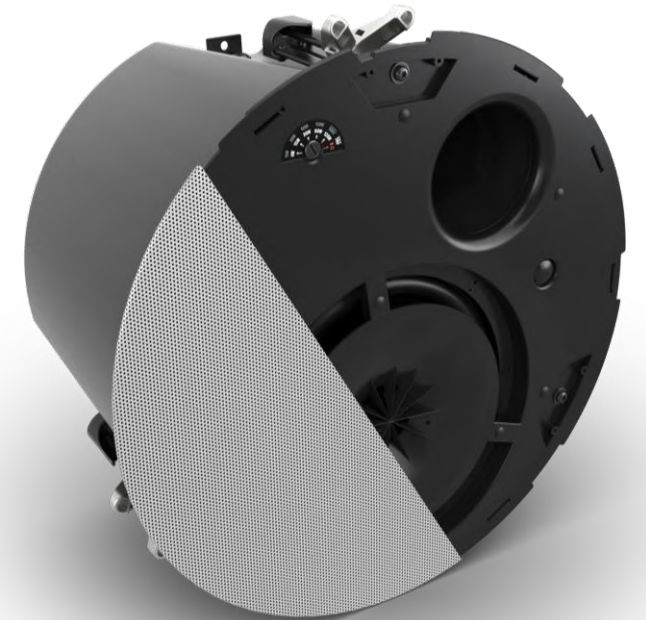
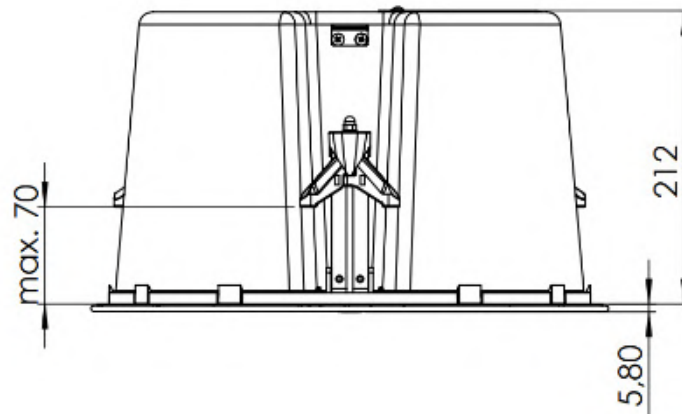
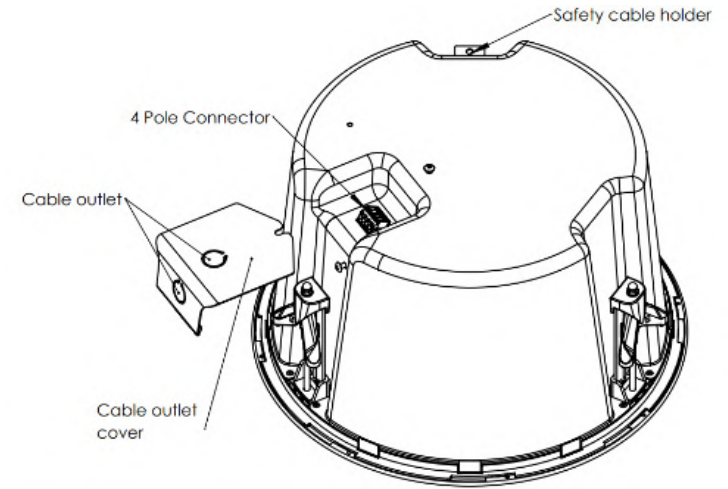
- **Extended Bass:** Larger internal volume for low-frequency response.
- **Depth:** 212 mm for maximum performance.
- **High SPL:** Ideal for premium background music.
- **Secure Install:** Twist and Lock grille system and tile bridge included.
- **Extended Grip:** Up to 70 mm for thick ceilings.
- **Reliable Connection:** Phoenix Contact connector for fast, tool-free wiring.



# LD CELIX® Series | CELIX SUB 8

8" CEILING SUBWOOFER WITH BACKCAN

- **Powerful Bass:** Complements CELIX full-range models.
- **Controlled Performance:** Closed back-can design.
- **Flexible Integration:** Ideal for music-rich environments.
- **Secure Install:** Twist and Lock grille system and tile bridge included.
- **Extended Grip:** Up to 70 mm for thick ceilings.
- **Reliable Connection:** Phoenix Contact connector for fast, tool-free wiring.





# MIX 4Z | Standalone 4-Zone Mixer with DSP Processing

SUCCESSOR OF THE ZONE SERIES ANALOG MIXERS

- **4 Mono output zones**
- **Clean Front Panel Design:** Intuitive controls for end users, minimizing complexity and ensuring easy operation.
- **Flexible Routing:** Route any input signal to any of the 4 balanced mono outputs, allowing customized audio distribution across zones.
- **4 Balanced Mic/Line Inputs** ensure clear and professional-grade audio capture for announcements and presentations.
- **4 Unbalanced Stereo Inputs (Mono Summed):** Connect external devices like music players or AV equipment seamlessly.
- **Prio ducking for MIC1 and MIC2**
- **Emergency Mode:** Instantly turn MIC1 input into an emergency source for all outputs during critical situations.
- **Switchable EQ + Compressor DSP Presets:** Optimize microphone audio quality with preset settings for different scenarios.
- **Lockable Routing Buttons:** Prevent accidental adjustments and maintain consistent settings.
- **High Reliability:** Robust construction for continuous operation in commercial environments.



# LD UPCOMING PROJECTS | Bluetooth Wall panels

WALLMOUNTED BLUETOOTH INTERFACES WITH DANTE OR ANALOG AUDIO OUTPUTS



## TIVA WP-BTD

- **Dante Connectivity:** 2x2 Bluetooth-to-Dante interface for easy BYOD streaming.
- **Dual Bluetooth:** Connect up to two devices and switch sources instantly.
- **Simple Control:** Front-panel buttons + TCP/IP API for pairing, naming & playback control.
- **Flexible Power:** Works via PoE (802.3af) or 12V DC.
- **Network Ready:** Supports AES67 and adjustable Dante latency.
- **Easy Updates:** Bluetooth firmware upgradable via USB-C.

## TIVA WP-BTA

- **Bluetooth to Analog:** 2-channel Bluetooth input to 2-channel analog output.
- **Dual Device Mode:** Two simultaneous connections with quick source switching.
- **Local Control:** Front-panel pairing & playback plus RS-232 API.
- **USB-C Updates:** Firmware-upgradable Bluetooth module.
- **12V Powered:** Simple DC power for universal installations.



LDsystems 

**your sound.**  
our mission.