

A background image of a courtroom. In the foreground, a wooden gavel with a brass band rests on a wooden sound block. In the background, a pair of golden scales of justice is visible, along with a blurred figure of a person in a courtroom setting.

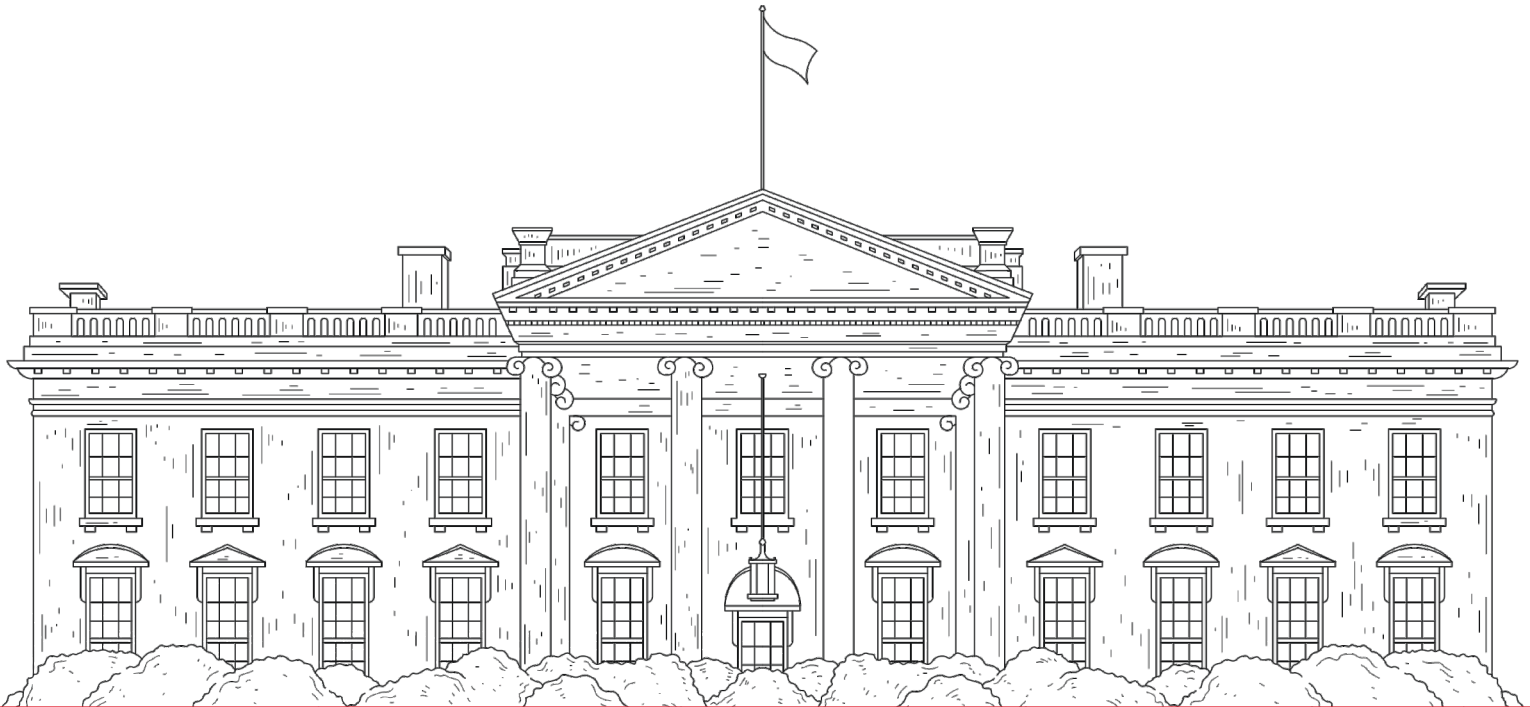
**COURTROOM**  
RECORDING &  
STREAMING SOLUTION

[www.nordencommunication.com](http://www.nordencommunication.com)









## Revolutionizing Legal Settings with **Norden's Reliable Innovations**

Enhancing judicial systems and boosting courtroom efficiency requires modern cutting-edge technologies. Norden Communication leads courtroom modernization with a wide range of products, from top-tier cables to advanced surveillance systems, ensuring fluid communication and vigilant monitoring with custom-made solutions.

Built on dependability, ingenuity, and distinction, our products uphold clarity and honor in judicial processes, guaranteeing unmatched efficacy in trials, witness documentation, and audio-visual exchanges.



## Advancing Transparency:

### The Role of Video Recording in Judicial Proceedings

The practice of video recording in courtrooms is a powerful tool for fostering openness within the legal system. It captures every aspect of the court's activities, strengthening public trust and reducing the likelihood of disputes due to neglected arguments or inaccuracies. Video recordings create a detailed and clear record of all spoken and unspoken interactions during trials, which is essential for reviews at higher courts, legal training, and scholarly work. It also acts as a preventive measure against possible improper behaviour in court by ensuring all proceedings are open to examination. The installation of audio visual system promotes a respectful and solemn atmosphere in line with court procedures. In essence, recording judicial proceedings is an innovative move that supports the core values of transparent justice, upholding the judiciary's dedication to impartiality, responsibility, and adherence to legal principles.





## ▼ Strengthening Trust and Accountability

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### Citizens' Confidence:

- Video + Audio recordings allow citizens to witness justice unfolding firsthand. This transparency fosters trust in the legal process.
- When citizens observe their rights being upheld, it reinforces their confidence in the system.

### Accountability and Fairness:

- Participants—judges, lawyers, and others—are aware that their actions are permanently documented.
- The knowledge that their words and decisions are subject to scrutiny encourages adherence to ethical standards.

## ▼ Mitigating Disputes and Ensuring Fair Representation

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### Reducing Ambiguity:

- Live recording captures nuances—the tone, body language, and interactions—minimizing ambiguity.
- Parties cannot later claim that certain contentions or facts were overlooked due to absence or misrepresentation.

### Avoiding Misrepresentation:

- Advocates play a critical role in presenting cases. However, human memory is fallible, and interpretations can vary.
- Video recordings prevent misrepresentation, allowing judges to review proceeding's objective.

## ▼ Live Streaming Initiatives

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### High Courts and Supreme Court:

- Live streaming of video conferencing proceedings has commenced in several High Courts and the Hon'ble Supreme Court of India.
- This initiative allows media and interests individuals to actively participate in court proceedings.

### Model Rules for Live Streaming:

- Under the guidance of the eCommittee, the Supreme Court of India constituted a sub-committee to frame Model Rules for Live Streaming.
- These rules aim to ensure transparency while respecting privacy and security concerns.

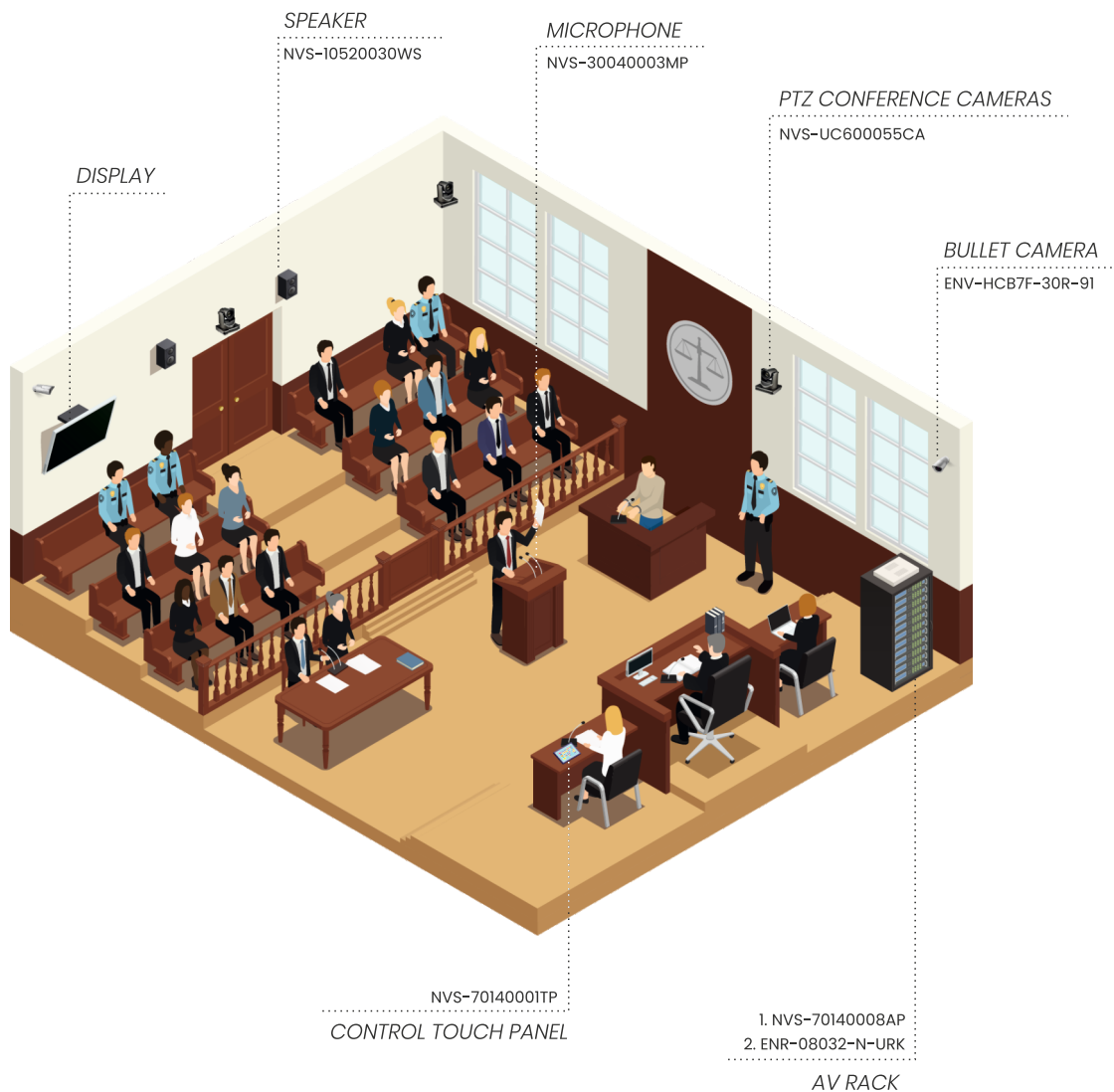


# Courtroom

## Audio and Video Solution

### Overview

In contemporary courtroom proceedings, having the right audio system is paramount. High-quality audio, supported by advanced Digital Signal Processing (DSP) technology, ensures clarity and efficiency. It captures every spoken word, maintaining the integrity of legal proceedings. Even in remote settings, seamless communication among all participants is facilitated. As we transition to digital recordings, crisp sound remains essential for upholding justice, ensuring fair trials, and maintaining accurate records.



## ▼ Key Components

Innovative Audio Visual Solutions

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### Cameras

- **PTZ Video Conferencing Camera:** These cameras capture conversations, ensuring synchronized audio and video.
- **Bullet Camera:** Provide an overview of the entire courtroom.

### Microphones

- **Gooseneck Condenser Microphones:** Strategically placed on the table, these microphones offer precise audio pickup.
- **Control Touch Panel:** The touchscreen control panel at the bench allows the judge to maintain complete control over muting or restoring audio and video in all zones of the courtroom with the touch of a single button.

### Audio Digital Signal Controller

- **Digital Signal Processor :** DSP handles tasks related to audio routing and camera control throughout the proceedings. It ensures seamless management of audio signals and camera trackings, contributing to an efficient and well-coordinated courtroom environment.

### Speakers

- **Active Wall Mount Speakers:** Active wall speakers offer an effective solution by uniformly dispersing sound across the entire space. This ensures that all participants can clearly hear arguments, leading to heightened concentration, increased engagement, and improved overall transparency.

### Recording and Streaming

- **Network Video Recorder (NVR) & Streaming PC:** Provided two levels of recording for better security. NVR is used to record the entire view of the courtroom. Also, the streaming PC can record the proceedings in a seamless video-switching manner.



## Visual Layouts

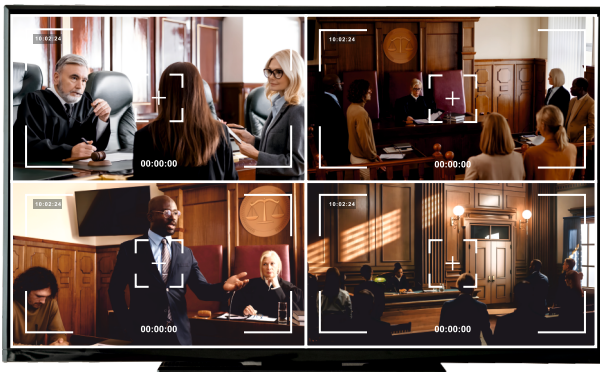
### Image 1 : Picture by picture

In this operational mode, two video streams are simultaneously live streamed along with audio. One of the PTZ cameras remains fixed on the judge, while the other PTZ camera dynamically pans between the speakers during the proceedings.

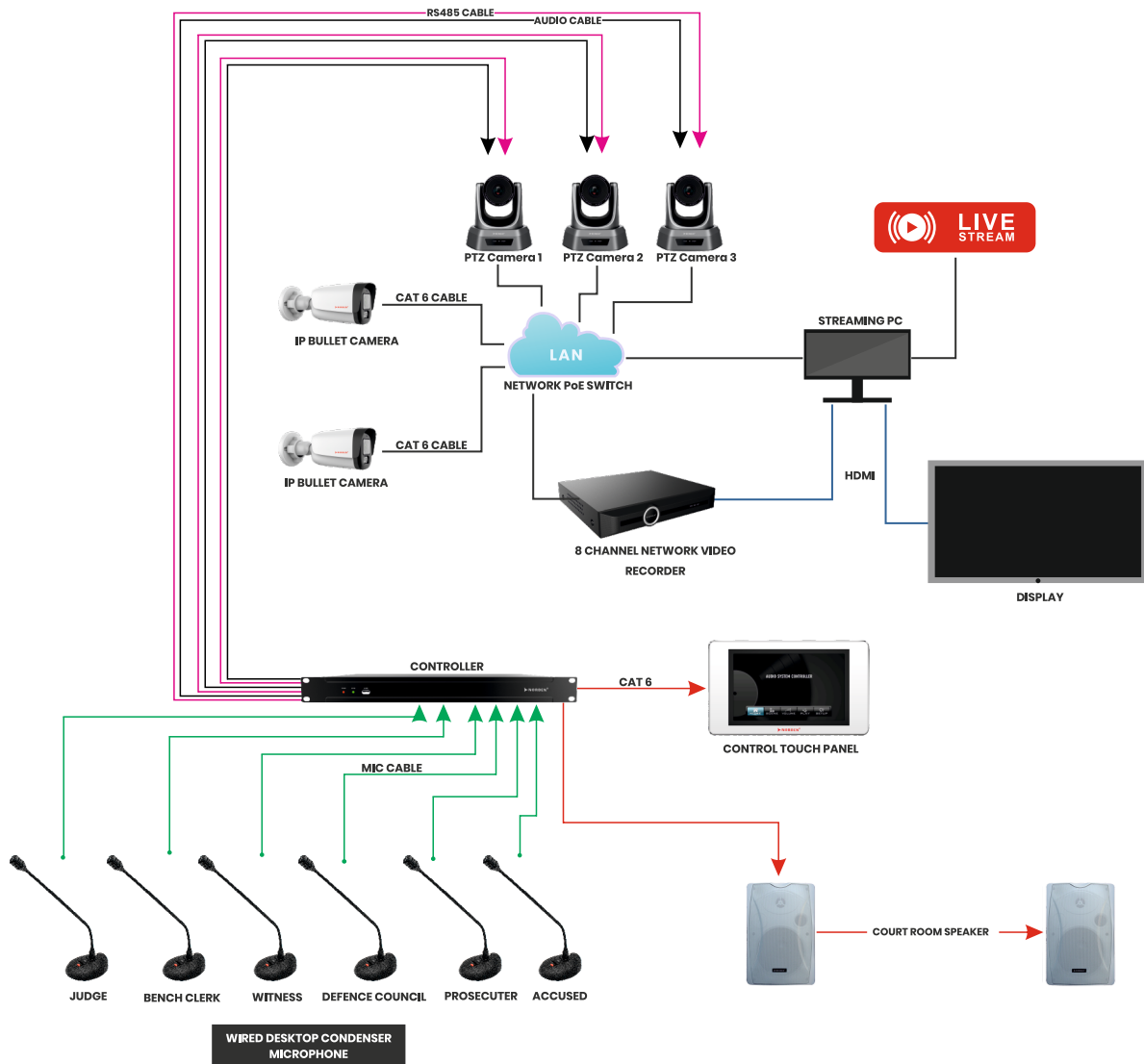


### Image 2 : Quard Mode

In this mode, four video streams can be live streamed along with audio. One of the PTZ cameras remains fixed on the judge, while the other PTZ camera dynamically pans between the speakers. Additionally, two bullet cameras capture front and back views of the courtroom.



# Connectivity Diagram





## Product Introduction

### PTZ CONFERENCE CAMERA

**NVS-UC600055CA**



- HD1080P image quality
- 1/3-inch-high quality, 2.38 Mega Pixel (16:9) CMOS sensor
- 20x optical zoom
- USB & HDMI & SDI 3 video outputs
- Accurate, smooth, and silent PTZ Movement
- Preset: 9 via IR remote setting (256 via Rs232)

#### Technical Parameters

- Image Sensor: 1/2.8 Inch SONY CMOS
- Effective pixel: 2.8 Mega Pixel
- Power Consumption: 12W
- Video Signals: 1080P 60/50/30/25fps, 720P 60/50/30/25fps
- Zoom: 20x Optical Zoom
- Power Supply: DC 12V, 2A

### 4MP FIXED BULLET CAMERA

**ENV-HCB7F-30R-91**



- 4MP Low Light IR IP H.265
- with 4mm Fixed Lens
- PoE, WDR, SD Card Slot
- Built-in Mic and 30m IR Support
- Video Compression rate H.265+, H.265, H.264
- Supported with noise cancellation inbuilt mic

#### Technical Parameters

- Image Sensor: 1/2.8" CMOS Progressive 4.0 Megapixel
- Day / Night: IR Cut Filter with Auto Switch
- Focal Length: 4mm
- Working Temperature: -40 °C ~ 60 °C
- Power Consumption: 6 W (12V DC), 7 W (PoE)
- Power Supply: 12V DC, PoE (IEEE 802.3af)

## DIGITAL AUDIO CONTROLLER

**NVS-70140008AP**



- 8 Audio inputs & 8 Audio outputs
- DSP audio processing
- Built-in automatic mixing console
- Built in Feedback elimination
- Built in Noise cancellation
- Automatic Camera Tracking Function

### Technical Parameters

- Number of Analog Channels: 8 balanced/line inputs+ 8 balanced/line outputs
- Sampling Rate: 48k@24bit
- Power Consumption: 48V
- Frequency Response: 20Hz~20K Hz
- Operating Temperature: 0-40°C
- Operating Power Supply: AC110V-220V,50Hz/60Hz

## Wired Desktop Condenser Microphone

**NVS-30040003MP**



- Anti-interference options
- Switch impact elimination
- Support battery/ phantom power supply switched automatically.
- Good frequency response 30Hz-20kHz
- Assembled or disassembled easily.
- High - fidelity microphone

### Technical Parameters

- Capsule Type: Condenser
- Frequency Response: 30Hz-20kHz
- Sensitivity: -45dB±2dB
- Polar Pattern: Uni-Directional
- Output Impedance: 75Ω
- Working Voltage: Phantom 48V



## 32CH EMBEDDED NETWORK VIDEO RECORDER

**ENR-08032-N-URK**



- 32 Channel input
- Support H.265+, H.265, H.264 video formats
- 8 SATA HDDs Bays
- HDMI and VGA simultaneous output
- Support RAID (0/1/5/6/10)
- eSATA Interface

### Technical Parameters

- Video Input: 32-Ch (Upgradable to 40 Channels)
- Video Compression: H.265+, H.265, H.264
- SATA: 8 SATA Interfaces
- Capacity: Up to 10TB for each HDD
- Power Consumption (without HDD): <100W
- Power Supply: AC100 ~ 240V, 50 / 60HZ

## CONTROL TOUCH PANEL

**NVS-70140001TP**



- Enables switching of scenes, volume control, playback control, and enhanced customization options.
- Core processor: CORTEX-M3 core + high-speed FPGA
- Product supports PoE or 12V adapter power supply with hot backup
- Capacitive touch screen control with TCP/IP protocol
- 5" capacitive touch screen operation
- Supports quick scene control, volume adjustment, playback control, and rich customization for easy use

### Technical Parameters

- Display type: TFT LCD
- Resolution: 800x480px
- Effective display size of the screen (L x W): 108x65mm
- Backlight tubes: LED
- Input voltage: 5~15V
- Weight: 130g

## Third Party Components

### DISPLAY PANEL

- 43/55" Professional Display Panel
- 400nit Brightness
- 1080p
- Narrow edge bezel
- 24/7 application

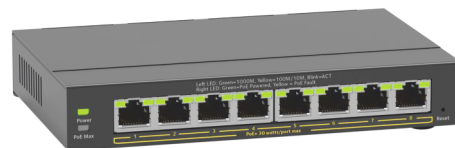


### STREAMING PC

- Intel 8th Gen NUC Core i5 Mini PC
- 8GB DDR4 Ram
- 500GB SSD
- USB 3.2 Gen2 ports
- Gigabyte Ethernet jack
- HDMI 2.0b

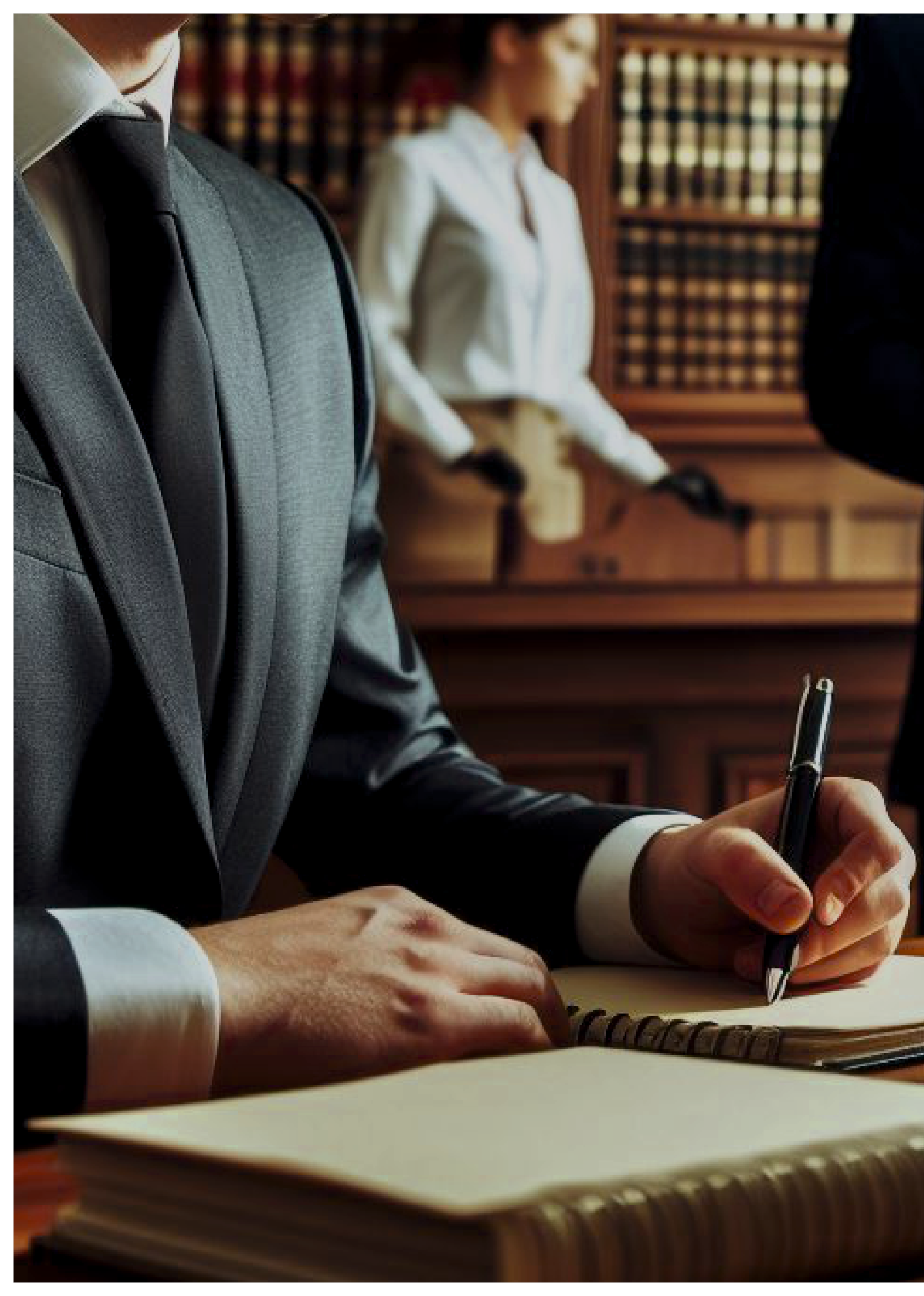
### POE SWITCH

- 8 10/100/1000 PoE+ ports (PoE budget of 67W).
- 2 1-Gigabit SFP module uplink slots or 2 RJ-45 slots.
- 1000BASE-T Copper Ethernet PoE+ connections
- Fan-less design, or temperature- and load-based fan-speed control allow for quiet operation in both desktop or rackmount configuration.



### AV CABLES & CONNECTORS

- Cat6 cables
- Aux cables
- Microphone cables
- HDMI Cables
- Audio Cables
- RS485 Cables









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