Q-NEX Networked Media Processor NMP311

The Standard 1U Terminal for Smart Classrooms

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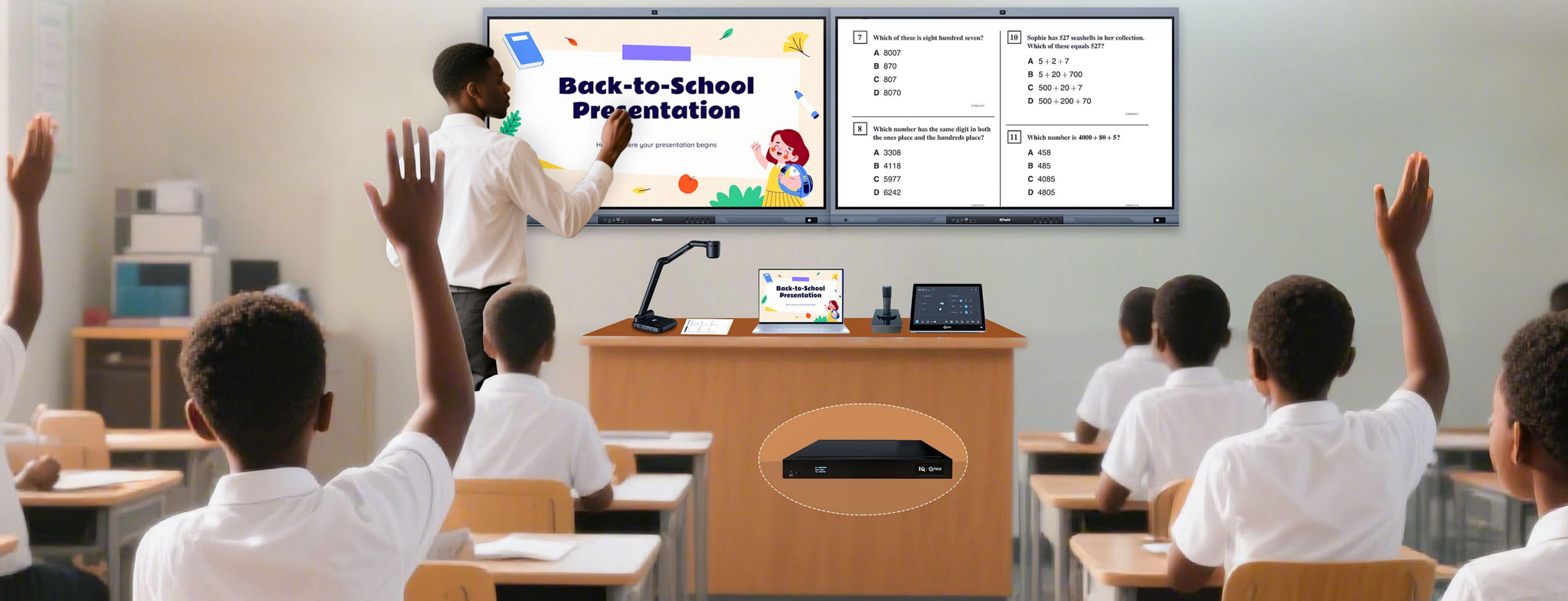
Product Overview

The Q-NEX NMP311 is a powerful 1U rack-mounted networked control terminal designed for classrooms, lecture halls, and meeting spaces within the Q-NEX ecosystem. By integrating AV switching, centralized device control, audio processing, and campus network broadcasting into a single compact unit, the NMP311 delivers a professional yet flexible solution. Installed discreetly in classroom cabinets or AV racks, it ensures teachers can focus on teaching while IT administrators benefit from streamlined management and maintenance.



Lightning-Fast Switching, Reliable AV Performance

The NMP311 features a 3×3 HDMI matrix switch supporting 4K@30Hz (HDCP 1.4). With near-zero latency, it enables smooth, real-time transitions between video sources—ideal for ensuring uninterrupted lessons and presentations without the delays or blackouts of traditional switching.

Control Panel for Centralized Classroom Management

Bundled with a smart touch panel, NMP311 allows teachers to control classroom devices directly from the desk. With one touch, they can power on/off displays, projectors, lighting, air conditioners, and curtains, creating a more efficient and engaging classroom environment.

Professional Wireless Microphone System

With its built-in wireless microphone system and amplification, the NMP311 delivers clear, natural audio for every corner of the classroom. Teachers can move freely and speak with ease, while students enjoy consistent, effortless voice amplification.

Clear, Crisp Audio

High-quality sound with minimal distortion and ultra-low latency (<3ms).

Compact & Hands-Free

Lightweight microphone with optional head-worn accessory for comfort and mobility.

Easy IR Pairing

Quick and simple connection with infrared pairing technology.

Rechargeable

Up to 6 hours of battery life with convenient base charging.

Smart IoT Control & Automation

The NMP311 acts as a central controller for AV and environmental devices:

One-Touch Power Control
Activate displays, projectors, and lighting simultaneously.

Smart Projector & Screen Control
Manage projectors and motorized screens easily.

HDMI Matrix Switching
Switch seamlessly between multiple video sources with near-zero latency.

Audio Control
Adjust microphone and speaker volume conveniently.

Air Conditioner Management
Adjust temperature, fan speed, and modes directly from the panel.

Lock & Access Control
Secure classrooms with relay-based electronic lock management.

All functions can also be accessed via the Q-NEX Console (web) or Q-NEX App (mobile), enabling IT admins to schedule tasks and monitor devices remotely across campus.

Scheduled AV Broadcast & Live Streaming

As part of the Q-NEX ecosystem, NMP311 can receive multimedia content pushed from the Q-NEX Console:

- **Scheduled Broadcasts**

Pre-load announcements, customized school bell rings, video materials, or campus messages for timed playback.

- **Live Streaming**

Stream events such as ceremonies, assemblies, or lectures to any connected classroom in real time.

*Requires a Media Server for storing uploaded media files and pushing content to NMP units.

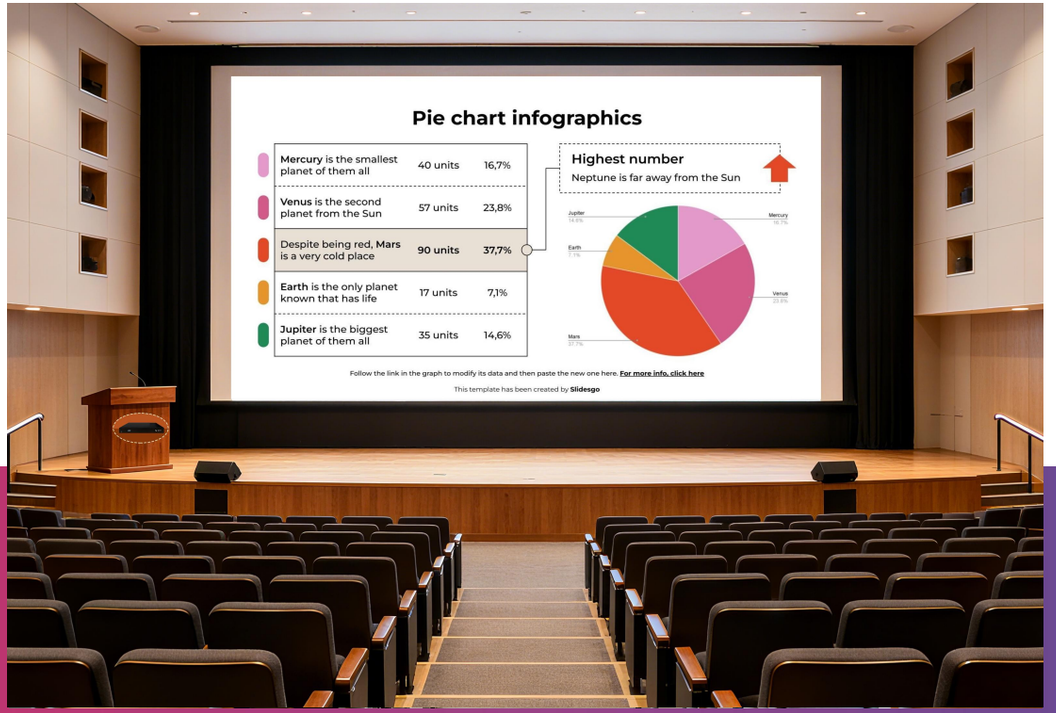
OLED Status Display

A built-in 1.3-inch OLED screen provides real-time system information, helping teachers and IT staff quickly check status and firmware version during daily operation or maintenance.

Rack-Mount Design for Flexible Deployment

Unlike desktop podiums, the NMP311’s 1U rack-mount form factor is designed for hidden installation. This makes it an ideal choice for classrooms that already use external PCs or interactive displays while still benefiting from Q-NEX centralized control and AV distribution.

Application Scenarios



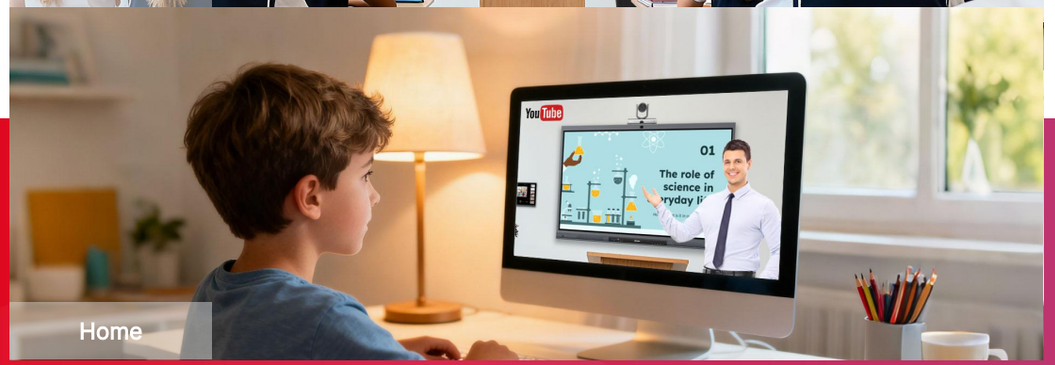
- **Smart Classrooms**

Centralized AV and IoT control with wireless mic integration.

- **Lecture Halls & Auditoriums**

Rack-mounted AV hub for reliable large-scale teaching.

Application Scenarios



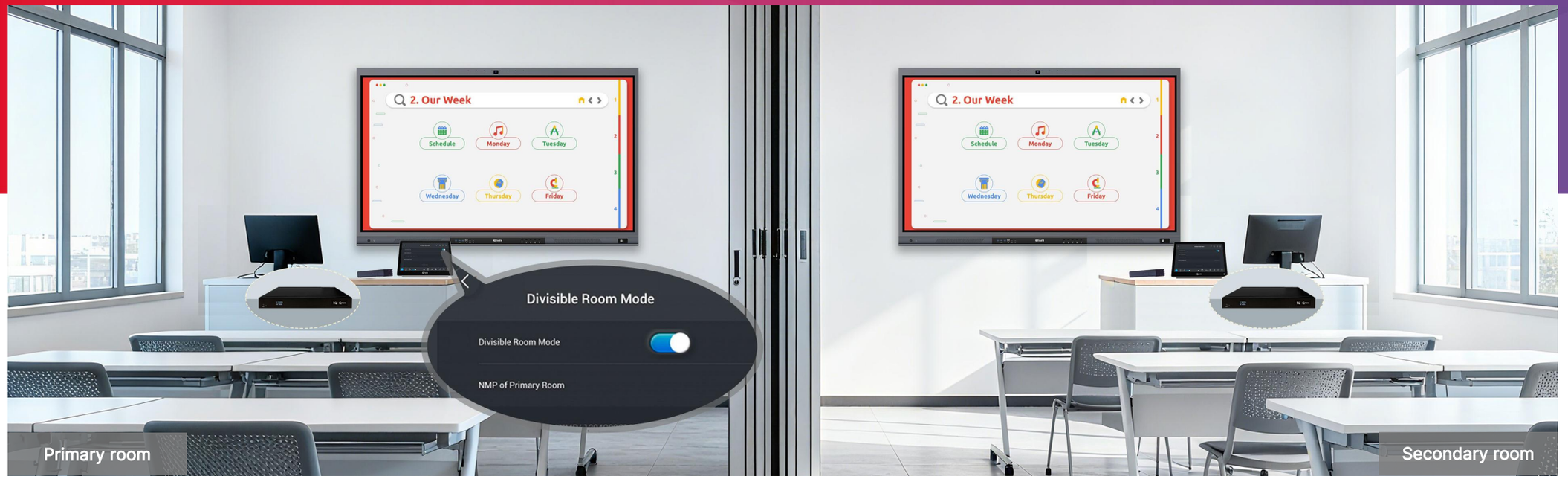
- **Hybrid Learning**

Combines with lecture capture systems for seamless online/offline delivery.

- **Campus-Wide AV Broadcast**

Scheduled and live AV distribution across multiple rooms.

Application Scenarios



Divisible Classrooms

Designed to maximize flexibility, the NMP311 empowers schools to adapt spaces effortlessly with these key benefits:

Independent Room Control: Each divided room can control its own devices without interference.

AV Distribution: Primary room content can be shared to secondary rooms, ensuring consistent playback across displays and speakers.

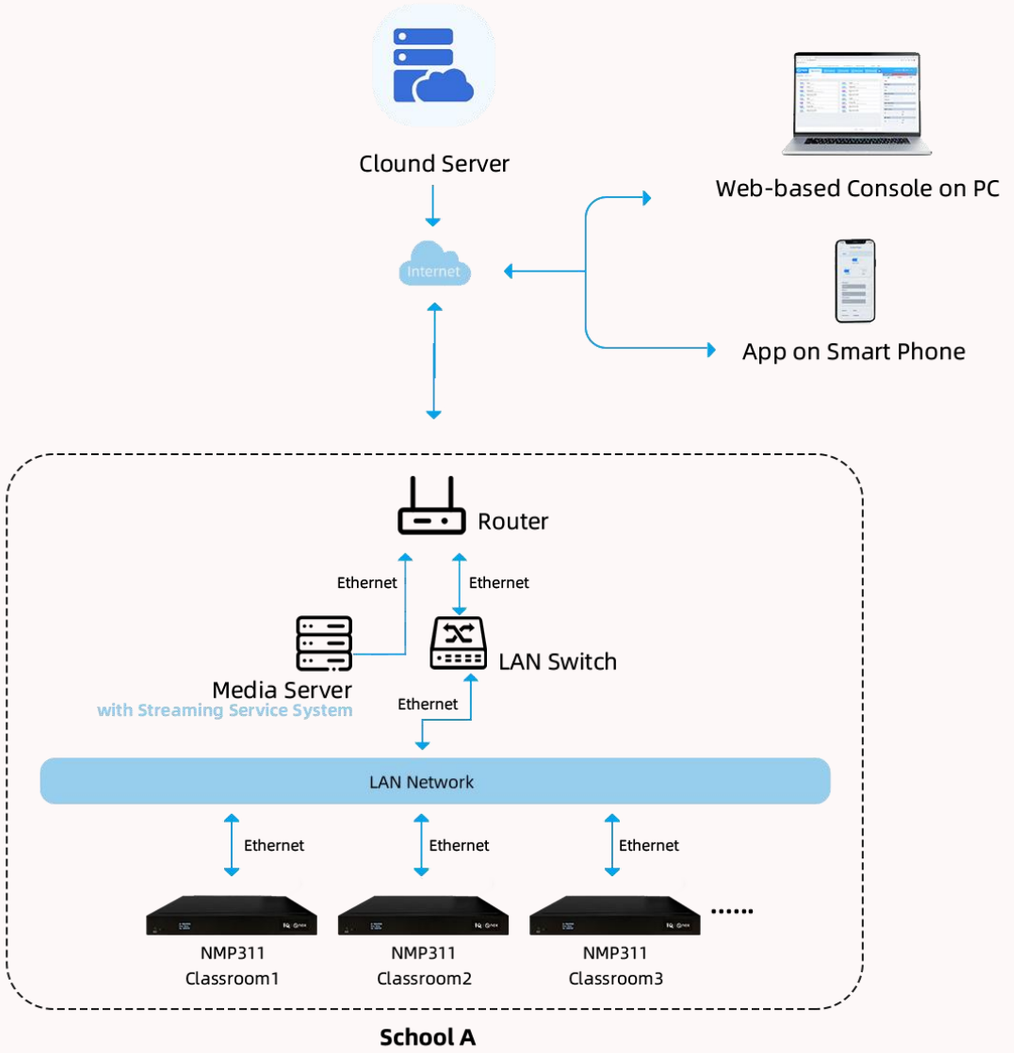
One-Tap Merge Mode: When partitions are removed, rooms merge into one large space with synchronized control.

Flexible Space Utilization: Quickly adapt between small classes and large events for maximum room efficiency.

Inside NMP311

Part of the Q-NEX Ecosystem

The NMP311 is the local hub of the Q-NEX ecosystem, linking classroom devices such as displays, audio, lighting, and air conditioning with the Q-NEX Platform. It turns centralized commands into real actions, so schools can manage devices and schedule broadcasts remotely, while teachers enjoy simple, one-touch control in the room.

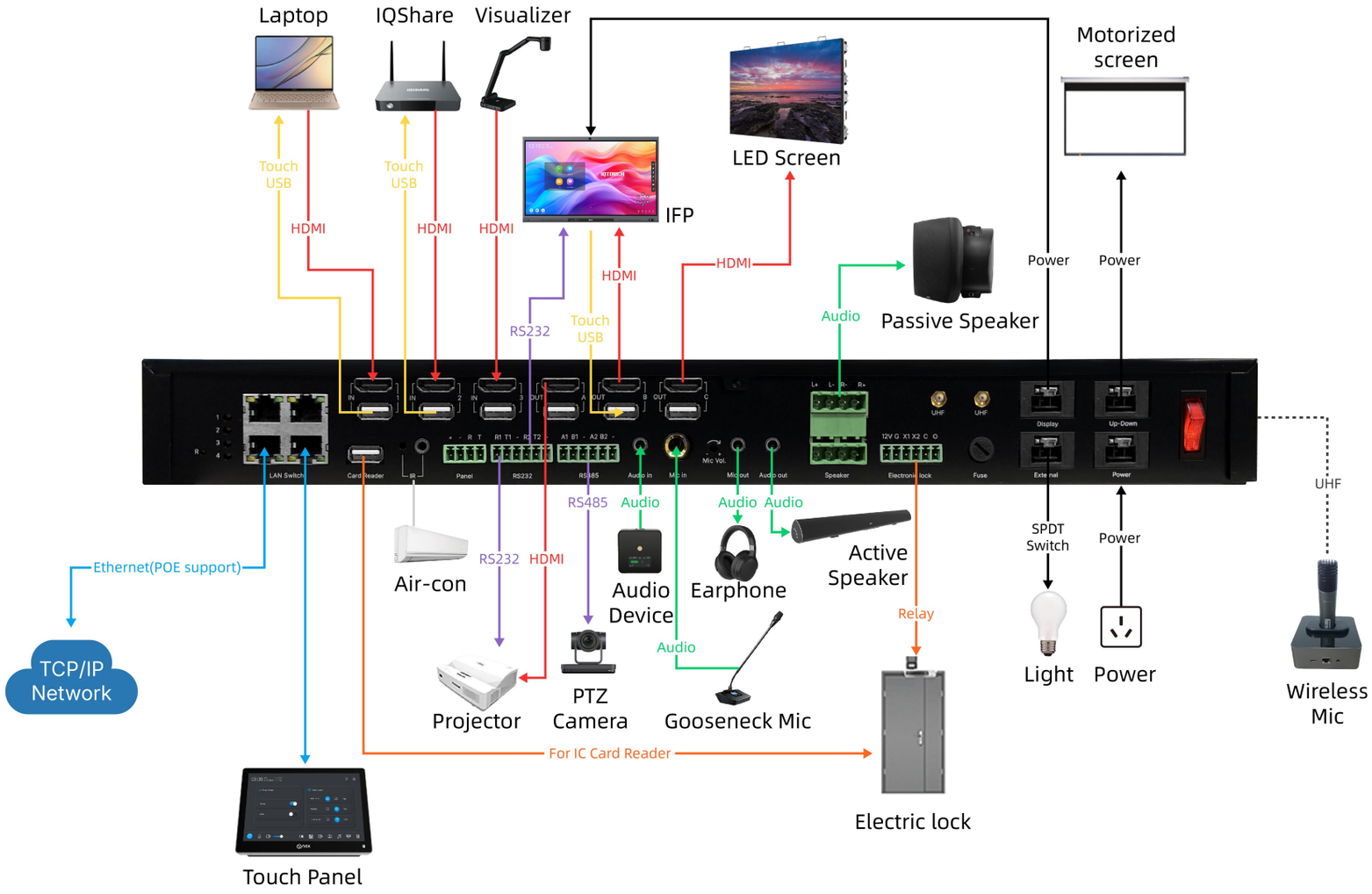


Height-Adjustable Lectern (Optional)

Purpose-built for the NMP311 solution, the lectern integrates control, computing, and teaching tools into a single, streamlined workstation. Everything is organized within easy reach, ensuring a clean and clutter-free setup.

Clean Connectivity, Built Right In

Application diagram



Specifications Networked Media Processor

NMP311	
Control panel	CPL20
LAN switch	2*10M/100M/1000M RJ45; 2*10M/100M/1000M RJ45(POE support; POE<=30W);
Audio	1*3.5mm line in; 1*3.5mm line out(mixed)
Microphone	1*6.35mm wired MIC in; 1*3.5mm MIC out
Volume control knob	For wireless microphone
LED screen	Panel type: OLED; Effective screen size: 1.3 inch(2:1); Resolution: 128*64; Display area: 29.42*14.7(mm)
HDMI matrix(Input * Output)	3*3MATRIX HDMI 1.4(4K@30Hz,HDCP1.4); Supports near-zero latency switching, enables instantaneous or near-instantaneous switching between video sources;
USB(KVM)	3*3USB-A 2.0
USB(For card reader)	1*USB-A 2.0
Communication interface	2*RS232; 2*RS485; 1*Phoenix 4-Pin(for Physical Control Panel or Control Box pairing); 1*IR-IN(for learning IR remote control code); 1*IR-OUT(for IR control)
Amplifier power output	2-channel, 40W + 40W per channel

NMP311	
Wireless microphone receiver(bulit-in)	2*UHF antenna(Exposed); Frequency bandwidth: 300KHz； Frequency range: 30Hz-16KHz； Receiving sensitivity: <=-96dBm; SNR: >= 94dB; Range: <=20m
Lock control	[+]:Power output, Voltage: 12V, Current: 800mA; [-]: Power ground (negative level); [I]: Door switch interface; [D]: Door lock status interface; [C]: Relay common end, Load capacity: DC 3A at 30V; [O]: Relay normally open, Load F26capacity: DC 3A at 30V
Power control	1*Power(AC IN, Wago Type): 100-240V~50/60Hz 2000W(MAX); 1*External (Resistive Load, Wago Type): 8A 28V DC /8A 240V AC; 1*Display(AC Out, Wago Type): 100-240V~50/60Hz 1200W(MAX); 1* Screen up-down(AC Out, Wago Type): 100-240V~50/60Hz 300W(MAX); 1*Power fuse; 1*Rocker switch
Size(L*W*H)	440*292*50mm
Weight	3.9kg

Specifications Control Panel

CPL20		
Interactive display	Screen	10 inch(16:9)
	Resolution	1280*800
	Brightness	250 cd/m²
	Contrast ratio	800:1
	Viewing angle	85° (H), 85° (V)
	Surface	1.1mm Hardened Anti-Reflection Safety Glass(7H); AG+AF; Optical Bonding technology
	Touch	Capacitive: 10 points
	NFC	For screen unlock
	OS(AOSP)	Q-NEX Console OS
Mainboard	CPU framework	Quad-cord A55
	CPU processor speed	2.0GHz
	RAM	2G
	ROM	32G
	O.S. version	Android 11

CPL20		
I/O		1*RJ45 1000M(POE Support); 1*USB 3.0; 1*USB 3.0(OTG); 1*HDMI OUT; 1*LINE OUT(3.5mm); 1*DC(12V); 1*RS232;
Physical specifications	Net weight	2.4kg
	Dimension (L*H*W)	244*171.5*28(mm)
	Physical button	1*Power
	Working temperature	-20°C to 70°C
	Working humidity	<85%
	Installation	Desktop stand

Specifications Wireless Microphone

WX-D11	
Type	Handheld Microphone(Includes charging base)
Receiving sensitivity	>=91dBm
Receiver working current	5V/150mA
Frequency range	642MHz ~702MHz
Sensitivity	-96dbm
Frequency response	30Hz~16Khz
SNR	94dbm
Transmit power	10dbm
Distortion	<0.1%
Effective distance	<30m
Latency	<3ms
Power supply	4.2v 800mah(14500 lithium battery)
Microphone working current	120mA@3V
Battery lifetime	6 Hours
Operating temperature	-20°C~80°C

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