

SPON



Highway Audio System Solution



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Emergency Broadcasts



Emergency Communication



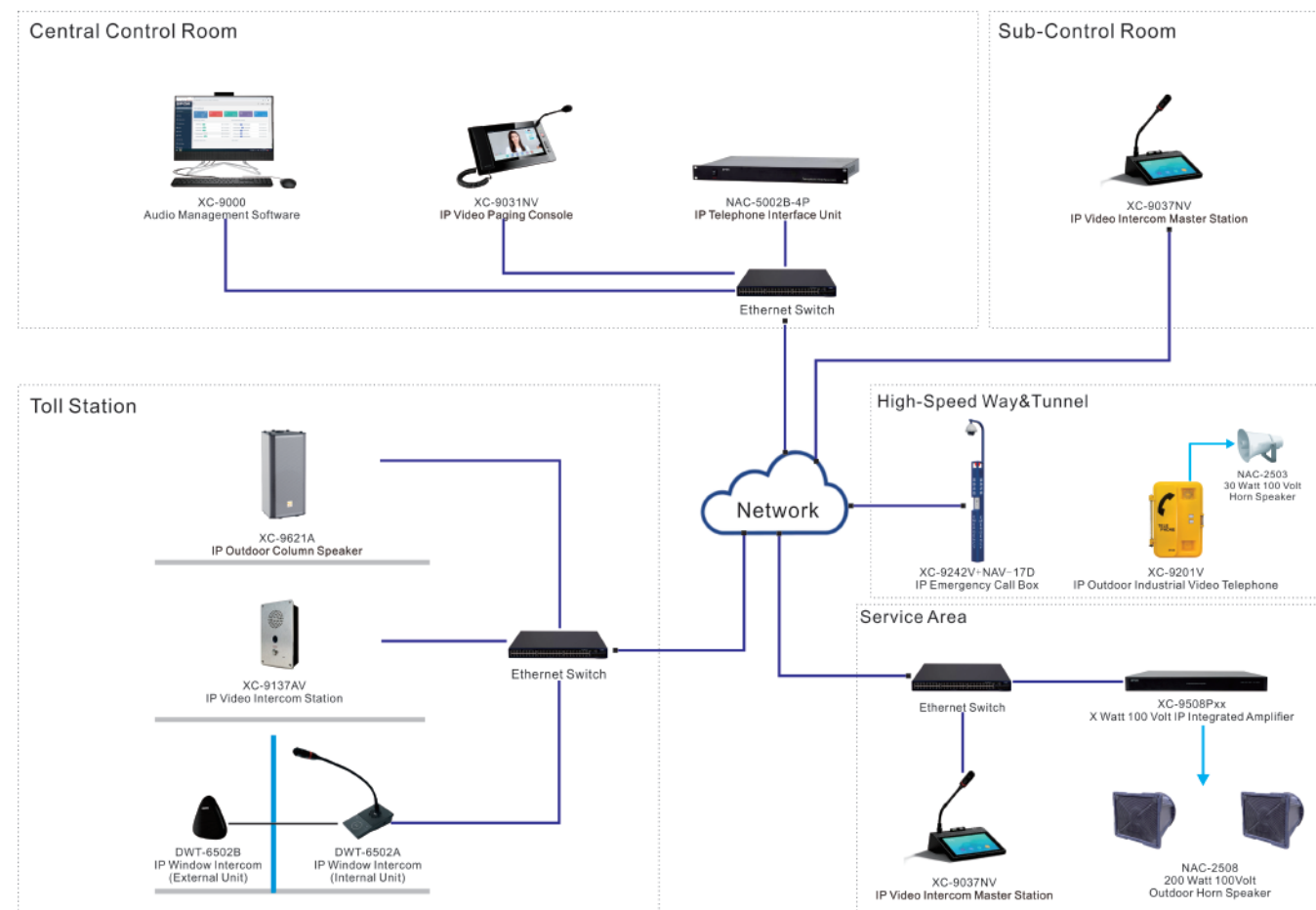
IP PA and Intercom Integration

System Overview

SPON IP Audio System

Highway toll booths, service zones, control centers, and tunnels are vital to modern highway infrastructures. They necessitate flawless communication and proficient management to ensure safe and peak performance. SPON offers an extensive IP PA and intercom solution tailored for these diverse settings.

This solution guarantees swift and dependable communication, fostering immediate interactions and data exchanges among staff across different sectors. It also robustly fortifies emergency responses and safety oversight.



Solution Key Benefits

Simplified and Efficient Audio Solutions

▲ Comprehensive IP PA and Intercom Integration

Efficiently deploy a cohesive IP PA and intercom system across pivotal highway locations such as toll booths, service zones, control centers, tunnels, and bridges. This integration ensures continuous communication, seamless information relay, and instantaneous broadcasting services throughout the entire highway.

▲ Instantaneous Emergency Broadcasts

In the face of urgent situations, the solution can swiftly activate emergency broadcasts via the IP broadcasting system, thereby alerting and directing staff, enhancing crisis management efficacy.

▲ Accessible Emergency Communication

Strategically positioned emergency call stations in toll booths, service areas, and along the highway stand ready for critical events. These stations empower drivers to promptly summon help, bolstering emergency responsiveness.

▲ Sophisticated System Oversight

With the inclusion of specialized management software in the control center, the system supports real-time surveillance, user management, and call recordkeeping. This facilitates efficient system administration and upkeep.

▲ Unwavering Reliability

Crafted using superior hardware and a resilient network architecture, the solution promises consistent and reliable performance, even in the most demanding of environments.

Solution Applications

Versatile Applications of SPON Audio System

▲ 1. Easy Control Management Server & Paging Microphone in Central Room



1.1. Centralized Oversight and Command

The service management platform software permits the monitoring center to exert centralized governance over the broadcast and intercom communication systems. It facilitates live device status monitoring, fault diagnosis, and troubleshooting, solidifying system dependability and consistency.

1.2. Instant Broadcasting Capabilities

From the central control room, instant announcements can be made—ranging from real-time alerts, urgent information, updates on road conditions to other vital messages—across all toll stations, service zones, and tunnel broadcasting nodes. This significantly augments traffic control efficacy and boosts emergency handling capacities.

1.3. Direct Intercom Communication

The central control center has the capability to directly communicate with staff across various toll booths, service areas, control hubs, and tunnels. This aids in remote guidance, coordination of duties, and swift problem resolution.

1.4. Recording and Retrospective Analysis

The SPON management server, endowed with recording functionalities, can chronicle and retain communication content. This proves invaluable for later checks or analyses.

1.5. Prompt Emergency Protocols and Coordination

In crisis situations, the system's one-click emergency broadcasting can dispatch crucial directives, allocate emergency provisions, and regulate traffic. This sharpens the precision and speed of emergency reactions.

1.6. Segmented Broadcasting

With the Multi-zones Broadcasting feature, locations like toll stations, service areas, and tunnels can simultaneously receive different broadcast messages tailored to their specific needs. This ensures precise and targeted communication for each zone.

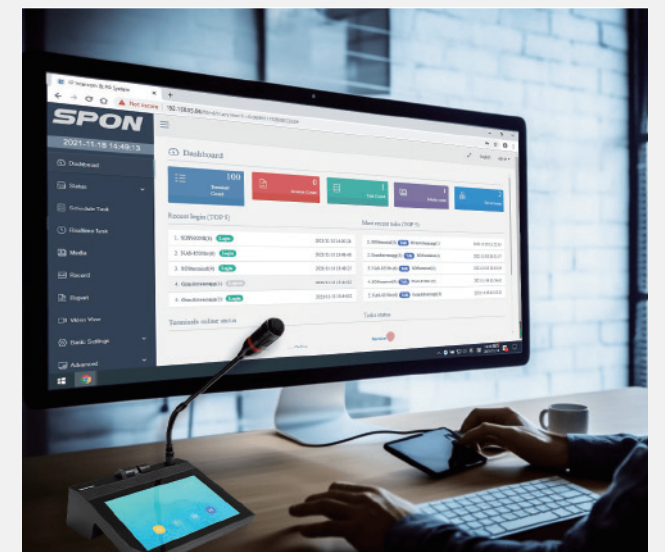
▲ 2. IP Paging System for Sub-control room

2.1. Immediate and Efficient Communication

The sub-control room has the capability to broadcast and engage in intercom conversations with all toll stations under its jurisdiction. This ensures prompt communication and authoritative guidance during exceptional situations.

2.2. Multi-Party Communication

The system allows for interactive communication between the central control room, toll stations, and other integrated devices, ensuring a comprehensive communication network.



▲ 3. IP Outdoor speaker for Toll stations



Equipped with SPON IP outdoor speakers at toll stations, these devices are seamlessly integrated with the station's control room or monitoring center for streamlined management.

They facilitate remote voice announcements, guide vehicles, broadcast safety alerts, provide real-time updates on road conditions, and offer policy reminders, ensuring both staff and drivers are well-informed and guided at all times.

▲ 4. IP Intercom Terminal for Unmanned toll station



4.1. The Caring Road Companion

With IP intercom terminals at unmanned toll stations, drivers are assured of safety and convenience every step of the way.

4.2. Always Connected, Immediate Assistance

Equipped with SPON IP intercom terminals, stay connected to the central or sub-control room at all times. Should there be an accident or an unforeseen event, rest assured you'll receive a prompt response and timely assistance.

4.3. User-Friendly and Intuitive

With a hands-free, one-button system, users can directly contact the central control room for any assistance they might require.

4.4. Cost-Efficient, Enhanced Efficiency

Eliminate the need for personnel at toll stations, leading to significant cost savings and increased operational efficiency.

▲ 5. IP Intercom Terminal for Manned Toll Station

5.1. Seamless Communication with SPON

Every toll station is equipped with SPON's Digital Window Intercom System, ensuring staff can effortlessly communicate among themselves and with the control center.

5.2. Tailored for Enclosed Environments

SPON Window Intercom systems are specifically designed for settings where staff operate within closed rooms, ensuring clear communication without compromise.



▲ 6. Highway Service Area



6.1. Swift and Direct Communication

Featuring one-touch quick call functionality, you can effortlessly establish a connection with the control room. Whether you're inquiring about services, seeking urgent assistance, or offering feedback, just press the button for prompt and efficient communication with the staff.

6.2. Up-to-the-Minute Broadcasts and Alerts

Receive real-time notifications on current road conditions, weather updates, service alerts, and other vital emergency road announcements, ensuring both safety and convenience during your journey.

6.3. Enhanced Stopover Experience

Our system aims to make your short breaks more pleasant and enjoyable, offering a moment of respite during your travels.

▲ 7. Highway Emergency Intercom Solution

7.1. Immediate Connection in Emergencies

SPON's emergency intercom devices are thoughtfully positioned at strategic points such as high-speed highway ramps, emergency stopping lanes, and other high-risk areas. A single button press during traffic incidents or unexpected emergencies immediately connects you to the central management or a designated rescue center, guaranteeing swift assistance.

7.2. Rapid Location Pinpointing

When the emergency call is activated, the system swiftly recognizes and communicates the precise location through the endpoint's assigned name, ensuring that rescue teams reach the scene without delay.



▲ 8. Tunnel Emergency System



8.1. Prompt Emergency Alerts and Announcements

Equipped with high-powered network amplifier devices and loudspeakers, our system facilitates rapid transmission of vital alerts and directions during emergencies, fortifying the safety measures within tunnels.

8.2. Instantaneous Emergency Connectivity

Emergency call endpoints are strategically positioned at tunnel entrances, internal corridors, and exits, all featuring a one-touch emergency call capability. During unforeseen events, travelers can effortlessly press the designated button to connect directly with the overseeing management or rescue center, optimizing the speed and effectiveness of emergency responses.

8.3. Centralized Oversight and Operation

All system endpoints are linked to a centralized monitoring hub, which facilitates remote observation and management. This not only assures the system's optimal performance but also boosts the overall operational efficacy.

Audio Management Platform XC-9000



▲ KEY FEATURES

UNIFIED MANAGEMENT AND USER INTERFACE

- **B/S software architecture:** centralized management of all IP intercom and PA devices.
- **User-friendly web interface:** all critical system information displayed on the Dashboard.
- **Versatile Events:** Creation and scheduling of timed events, alarm events, and customizable event combinations.
- **Mobile app Management:** PA system management and user account management, including operation authority settings.

PA AND INTERCOM FLEXIBILITY

- **Various Task Form:** Supports multiple real-time PA tasks using server sound card, files, terminals, and speech synthesis.
- **Multiple Calling way:** User-defined call transfer, answer, and call priority settings.
- **Online Database:** Upload functionality for audio files and pre-recorded messages to the media library.
- **Seamless Compatibility:** Integration with third-party VOIP phones using SIP trunk for seamless VOIP system connection.

SYSTEM MONITORING AND INTEGRATION

- **Operation Log:** Call-log and event-log recording and inquiry features for efficient monitoring.
- **API Flexibility:** Standard HTTP API documentation to facilitate integration with other systems and third-party development.

IP VIDEO INTERCOM PAGING CONSOLE XC-9031NV

▲ TECHNICAL PARAMETERS

Power Supply	DC 12V/3.3A or PoE IEEE802.3af
Video Codec	VGA/720/1080
Configuration Method	Local Settings/Web Page
Frequency Response	25Hz~20KHz
Audio Sampling & Bit Rate	8KHz~48KHz, 16bit/32bit
Network Protocol	SIP (RFC 3261), TCP, UDP, ARP, ICMP, IGMP, HTTP, RTP



▲ KEY FEATURES

DESIGN & COMMUNICATION

- - **Multifunctional Console:** Professional, versatile console supporting various installations (desktop, embedded, wall-mounted).
- - **Interactive Touch Screen & Camera:** Equipped with a 10.2" TFT LCD touch screen and a 13MP HD camera for two-way video intercom.
- - **Versatile Audio Options:** Built-in 3W speaker, unidirectional microphone, and Bluetooth connectivity for diverse intercom options, including hands-free and gooseneck microphone use.

BROADCASTING, CALLING, AND RECOGNITION CAPABILITIES

- - **Zone-Wise PA:** Flexible paging broadcasting across different zones.
- - **Diverse Calling Methods:** Offers Dial, Bookmarks, and Map calling modes.
- - **Enhanced Security:** Intelligent face recognition for enhanced security.
- - **Media Broadcasting and Conference Support:** Pre-recording and file broadcasting to specified terminals, along with full audio/video conference support.

NETWORK MONITORING AND EXTERNAL INTEGRATION

- - **Comprehensive Network Monitoring:** Network state checks for each system terminal.
- - **Emergency and Access Control:** Relay Input/Output interfaces for linking with emergency buttons, detectors, alarms, and electronic locks.
- - **VoIP Integration:** SIP protocol compatibility for seamless integration with VoIP systems like Cisco, Asterisk, and Yealink.

NETWORK VIDEO INTERCOM MASTER STATION XC-9037NV

▲ TECHNICAL PARAMETERS

Power Supply	DC 12V/1.5A
Camera	2MP
Video Codec	VGA/720/1080
S/N (Signal-to-Noise) Ratio	≥82dB
Audio Sampling & Bit Rate	8kHz-44.1kHz, 16bit, 8kbps-320kbps
Frequency Response	40Hz-18kHz
Network Protocol	SIP (RFC 3261), HTTP, TCP/IP, UDP, ARP, ICMP, IGMP
Configuration Method	Local Settings/Web Page
Mounting Method	Desktop
Interface	1×RJ45 Ethernet Port, 1×USB 2.0, 1×Line Input, 1×Line Output, 1×Relay Input, 1×Relay Output



▲ KEY FEATURES

INTERACTIVE DISPLAY AND CAMERA FEATURES

- - **7-Inch Touchscreen:** User-Friendly Interface For Easy Interaction.
- - **200W HD Camera:** Equipped With Physical Privacy Protection.

COMMUNICATION TECHNOLOGIES

- - **Full-Duplex Visual Intercom:** Enables Effective Two-Way Visual Communication.
- - **Noise Reduction Algorithm:** Enhances Audio Quality For Clearer Communication.
- - **Remote Monitoring Capabilities:** Ability To Check The Status Of The Terminals, Including Login And Intercom Status.

BROADCASTING AND CUSTOMIZATION

- - **Flexible Broadcasting Options:** Supports Broadcasts To All Areas, Specific Zones, Or Individual Terminals.
- - **Multiple Broadcast Formats:** Including Audio Files, Pre-Recorded Messages, And TTS Options.
- - **Emergency Broadcast System:** One-Touch PA Across All Terminals.
- - **Customizable Ring Tones:** Personalize Ringtones For Calls And Broadcasts.

NETWORK SIP INTERCOM STATION XC-9137AV

▲ TECHNICAL PARAMETERS

Power Supply	DC12V/1.5A
Power Consumption	≤4W
Network Protocol	TCP/IP, UDP, ARP, ICMP, IGMP, HTTP
Network Chip Speed	10/100Mbps
Audio Sampling, Bitrate	8kHz-44.1kHz, 16bit, 8kbps-320kbps
Video Transmission Bitrate	512Kbps-4Mbps
Video Encoding	VGA/720/1080
Camera	CMOS
Interfaces	1 RJ45 Ethernet port, 1 alarm input, 1 alarm output, 1 recording output
Operating Temperature, Humidity	-20°C to 60°C, ≤90%RH (non-condensing)



▲ KEY FEATURES

DESIGN & EXTERNAL FEATURES

- **-Durability & Design:** Sturdy, aluminum alloy panel with an IPX5 protection rating.
- **-Embedded Installation:** Can be integrated into walls and columns, maintaining aesthetic appeal.
- **- Camera Features:** Built-in 1080P HD ultra-wide-angle camera with effective low and backlight compensation for full coverage in diverse lighting.
- **-Power Supply:** Supports Power over Ethernet option.

COMPATIBILITY

- **-ONVIF Compatible:** Complies With ONVIF, Connects Directly To Mainstream NVRs For Synchronized Audio-Video Recording For Traceability.
- **-SIP Support:** Compatible With SIP, Can Be Independently Connected To VOIP Phone Systems (Like Asterisk IP-PBX).

SPECIAL FUNCTIONALITY

- **-Offline Intercom Capability:** Supports Offline Intercom (Initiating And Receiving) Without A Server.
- **-Control Features:** Equipped With An Alarm Output For Controlling Warning Lights.

IP WINDOW INTERCOM KIT DWT-6502AB

▲ TECHNICAL PARAMETERS

Power Supply	DC 12V/1.5A
Network Protocol	TCP/IP, UDP, ARP, ICMP, IGMP,FTP
Audio Codec	PCM/AAC
Audio Sampling Rate	8kHz-32kHz
S/N (Signal-to-Noise) Ratio	≥90dB
Interface	1×RJ45 Ethernet Port, 1×Power Input , 1×Recording Port , 1× external and internal connector



▲ KEY FEATURES

DESIGN & USABILITY ENHANCEMENTS

- **- Touch button:** Features a noiseless, full-touch button design for easy cleaning and disinfection.
- **- Cable Management:** Integrated system for a neat, clutter-free work-space.
- **- Sleek Metal Design:** Professional cavity structure that prevents resonance for enhanced device performance.

AUDIO QUALITY & TAILORED SETTINGS

- **- Advanced Sound Technology:** Intelligent sound source detection with ambient noise reduction and automatic volume adjustment.
- **- Customizable Audio Modes:** Three scene modes to fine-tune audio quality in different environments.
- **- Pure Sound Output:** Specialized design ensures natural and undistorted sound.

CONNECTIVITY & OPERATIONAL FUNCTIONALITY

- **- Unified Cable Solution:** Combines power, network, and recording functionalities in one cable.
- **- FTP Voice Messaging:** Supports personalized voice messages for improved customer interaction.
- **- Recording Output Interface:** Facilitates integration with third-party devices.

NETWORK OUTDOOR WALL MOUNT SPEAKER

XC-9621

▲ TECHNICAL PARAMETERS

Power Supply	DC 24V/1.5A or PoE (IEEE802.3af)
Rated Power Output	30W (at DC 24V/1A powered) 15W (at PoE powered)
Network Protocol	TCP/IP, UDP, ARP, ICMP, IGMP
Maximum SPL	97dB±3dB
Power Consumption	≤3W (Standby)
Operating Temperature, Humidity	-20°C to 50°C, 10% to 90% RH (non-condensing)
Frequency Response	100Hz-18kHz



▲ KEY FEATURES

ELEGANT DESIGN & STRONG BUILD

- - **Compact Wall-Mount Structure:** Stylish and suitable for various environments.
- - **Aluminum Casing:** Durable, waterproof, and designed for diverse settings.

ADVANCED SOUND TECHNOLOGY

- - **Built-in Class-D Amplifier:** Delivers up to 30W for powerful sound.
- - **Versatile PA:** Supports network broadcasting, local amplification, and Bluetooth connectivity (APP required).

CONNECTIVITY AND CONTROL

- - **RJ45 Port:** Ensures easy network access across segments and routers.
- - **Dual Management Modes:** Network and Bluetooth configuration options available (APP needed).
- - **Alarm Input:** Triggers server tasks for immediate alerts and announcements.
- - **Remote Management:** Equipped with remote management and online upgrading capabilities for ongoing system optimization.

IP INDUSTRIAL VIDEO PHONE BOX

XC-9201V

▲ TECHNICAL PARAMETERS

Power Supply	DC 24V/2.7A or PoE (IEEE802.3af)
Network Protocol	SIP 2.0 (RFC 3261), HTTP, TCP/IP, UDP, ARP, ICMP, IGMP
Audio Sampling Rate	8kHz-44.1kHz, 16bit
Power Consumption	≤65W
Video Transmission Bit Rate	16Kbps-2Mbps
Video Coding	GVA/720/1080P
Transmission Bit Rate	8kbps-320kbps
S/N (Signal-to-Noise) Ratio	≥90dB
IP Rating	IP66
Interface	1×RJ45 Ethernet Port, 1×Relay Output, 2×Speaker Output (8Ω), 1×Power Input



▲ KEY FEATURES

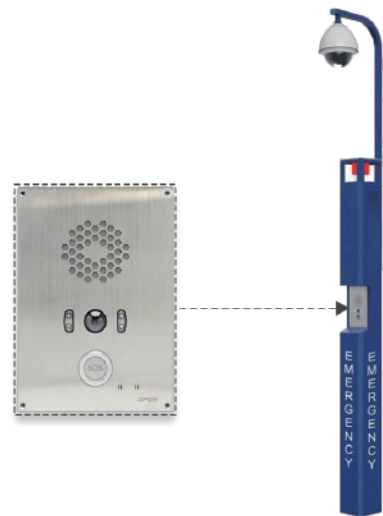
ENHANCED DESIGN AND FUNCTIONAL FEATURES

- - **Aluminum Alloy Construction:** Wall-mounted, paint-coated casing with resistance to dust, noise, explosions, and corrosion.
- - **Efficient Dialing System:** Numeric keypad for full-duplex intercom with any terminal.
- - **Emergency Calling:** Quick-access button for one-touch calls to preset destinations.
- - **Offline Intercom Support:** Functions without a server for offline communication.

ADVANCED CONNECTIVITY AND CONTROLS

- - **Versatile Output Ports:** Alarm and amplifier outputs for connecting alarms and speakers.
- - **Broad Network Compatibility:** Easily connects via Ethernet, supporting cross-segment and router functionality.
- - **POE Enabled:** Power Over Ethernet support for streamlined power supply.

IP EMERGENCY CALL BOX XC-9242V



▲ TECHNICAL PARAMETERS

Power Supply	DC 24V/2.7A
Network Protocol	SIP 2.0 (RFC 3261), HTTP, TCP/IP, UDP, ARP, ICMP, IGMP
Audio Sampling Rate	8kHz~44.1kHz, 16bit
Transmission Bit Rate	8kbps~320kbps
Video Coding	VGA/720/1080P
IP Rating	IPX5
Weight	5kg

▲ KEY FEATURES

DURABLE DESIGN AND SAFETY MECHANISMS

- - **All-Weather Metal Casing:** IPX5-rated for outdoor durability.
- - **Safety Features:** Includes surge and lightning protection with automatic recovery.

COMMUNICATION AND ALERT SYSTEM

- - **Easy Call Function:** Single-button calling to server-set targets for efficient communication.
- - **Integrated Warning System:** Compatible with the NAC-17D alarm column with a warning light for intercom alerts and monitoring center control.

AUDIO-VISUAL FEATURES AND AMPLIFICATION

- - **Audio Equipment:** 10W speaker and microphone for hands-free communication and broadcast reception.
- - **Amplifier and Camera:** 40W digital amplifier module for external speakers; 1080P wide-angle camera with H.264 encoding for visual intercom.
- - **Network Integration:** ONVIF protocol for NVR connection; standard SIP protocol support for VoIP systems like Asterisk.

CONNECTIVITY AND ADDITIONAL FEATURES

- - **Server-Independent Operation:** Capable of offline intercom functionality.
- - **Security Alerts:** Noise level monitoring and anti-tampering alarms.
- - **Multiple Inputs and Outputs:** Includes alarm inputs, controlled power output for driving warning lights, and switch alarm output for device linkage.

NETWORK INTEGRATED AMPLIFIER XC-9508



▲ TECHNICAL PARAMETERS

Power Supply	AC 100V~240V 50/60Hz
Network Protocol	SIP 2.0 (RFC 3261), FTP, HTTP, DHCP, TCP/IP, UDP, ARP, ICMP, IGMP
Audio Encoding	MP3/PCM/ADPCM/G711.a/G711.u/G729
Temperature & Humidity	-10℃ ~ +50℃, ≤90%RH (No Frost)
Frequency Response	60Hz~18KHz
THD (Total Harmonic Distortion)	≤0.5% at 1kHz, 1/2 rated output
Speaker Output	70V/100V (Constant-Voltage)

▲ KEY FEATURES

DESIGN & AMPLIFICATION FEATURES

- - **Efficient 1U Rack Design:** Compact and robust, fitting seamlessly into various setups.
- - **Powerful Class-D Amplifier:** 130W digital amplifier, optimized for 100V loudspeakers.
- - **Maintenance Indicators:** Front panel equipped with multiple status lights for ease of maintenance.

SAFETY & STORAGE CAPABILITIES

- - **Advanced Protection Circuit:** Shields against overload, overheating, and lightning.
- - **Enhanced Storage:** Large capacity for storing and updating tasks and alarm files remotely.

CONNECTIVITY & SYSTEM INTEGRATION

- - **VoIP System Compatibility:** Supports SIP protocol for seamless integration with systems like Yeastar, Asterisk, and Cisco.
- - **Independent Offline Broadcasting:** Capable of functioning without a server.
- - **Voice Announcement Reception:** Compatible with live announcements from third-party VoIP and SPON management software.
- - **Fire Alarm System Connection:** Includes Relay I/O port for integration with external fire alarm systems.

ANALOG HORN SPEAKER
NAC-2508



▲ TECHNICAL PARAMETERS

Rated Power Output	200W
Input Voltage	100V
Sensitivity	110dB±3dB
Frequency Response	120Hz-18KHz
IP Rating	IP65
Dimensions	540×460×700mm
Weight	25.0kg