

# NBS-2301

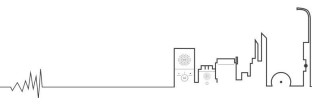
## Multi-Zone IP Paging Amplifier



SPON Multi-Zone IP paging amplifier NBS-2301 provides multiple external audio interface to meet any application scene ,such as supermarket、 office building 、 school ,etc . Integrated with pre-amplifier function , bass and treble controls are provided to adjust the sound effect and volume of each audio channel . Automatic cooling system ensures the extreme quite sound system . This amplifier can be called as 4 zone audio amplifier.

## MAIN FUNCTIONS

1. 2U rack design , flexible and durable .
2. With 4.3 inch TFT color LCD screen and control rotate button ,support infrared remote control .
3. With multiple status indicator light on the pront panel , easier maintenance .
4. Built-in digital Class-D 130W amplifier ,loudspeaker connectors for 100V、 8-16  $\Omega$  powered loudspeakers .
5. Built-in complete protection circuit , support overload 、 overheating ,etc.
6. Built-in 4 zones output , each zones can be independently controlled.
7. Built-in clock chip for timed broadcasting without server relies, the timed broadcasting program need to be pre-uploaded to local SD card.
8. Built-in Mic and speaker for two-way intercom function.
9. Support Relay I/O port to connect with the 3-rd party Firm alarm system .



## SPECIFICATION

### Power Parameters

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Power Supply: AC 220V, 50Hz  
Rated Output: 130W  
Power Consumption:  $\leq 170W$

### Audio Parameters

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Audio Codec: MP2, MP3, PCM, ADPCM  
S/N (Signal-to-Noise) Ratio: Mic Input 01:  $\geq 65dB$ , Mic Input 02/03:  $\geq 80dB$ , Aux Input 01/02:  $\geq 82dB$   
Audio Sampling & Bit Rate: 8kHz~44.1kHz, 16bit, 8kbps~320kbps  
THD (Total Harmonic Distortion):  $\leq 0.5\%$  at 1kHz, 1/2 rated output  
Frequency Response: Mic Input 01: 80Hz~14kHz, Mic Input 02/03: 60Hz~16kHz, Aux Input 01/02: 60Hz~16kHz

### Network Parameters

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Network I/F: 10BASE-T/100BASE-TX RJ45  
Network Protocol: HTTP, TCP/IP, UDP, ARP, ICMP, IGMP  
Configuration Method: Web Interface or DevConfig Tool

### Mechanical&Environment Properties

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Mounting Method: 2U Rack-Mounted  
Installation Environment: Dry Indoor Locations Only  
Operating Temperature:  $-10^{\circ}C \sim +50^{\circ}C$  ( $14^{\circ}F \sim 122^{\circ}F$ )  
Storage Temperature:  $-40^{\circ}C \sim +60^{\circ}C$  ( $-40^{\circ}F \sim 140^{\circ}F$ )  
Operating Humidity:  $\leq 90\%$  RH non-condensing  
Heat Dissipation: Automatic start of the built-in fan when the temperature of the radiator exceeds  $55^{\circ}C$ , forced air cooling from front to back.  
Protection: Over-Current Protection, Short-Circuit Protection, Overload Protection, Thermal Protection  
Front Panel Material: Aluminum Alloy  
Housing Material: Surface-Treated Steel Plate  
Color: Black  
Product Dimensions: 483x430x88mm  
Product Weight: 7.5KG  
Packaging: Carton Box  
Packed Dimensions: 560x530x170mm  
Packed Weight: 9.5KG  
Product Warranty: 2 Years Limited

### Accessories

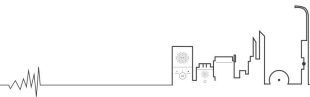
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Standard Accessories: 1×Remote Control、2×6-Pin Pluggable Terminal Block Connector (3.81mm Pitch, AWG 26-16)、4×Flat Head Screw & Washer、1×Quick Installation Guide、1×Quality Certificate、1×Warranty Card  
Optional Accessories: Power Cord (IEC C13 Female - Type B/F/G Power Plug)

### Compliance

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Approved Standards: CE (EMC Directive 2014/30/EU)  
CE (LVD Directive 2014/35/EU)

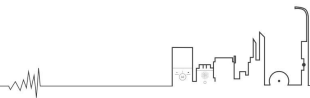


## INTERFACE DESCRIPTION

[Front Panel]

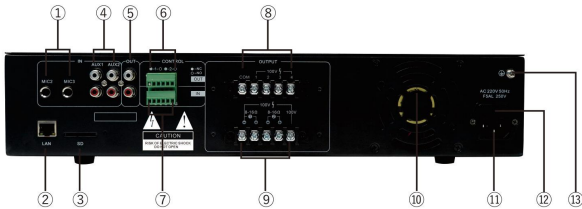


- ① Power switch and power indicator: Turn on power and lighten the indicator, turn off power and indicator.
- ② LED screen : Display the host work information.
- ③ Function selection button: To realize the corresponding function of LED screen displayed.
- ④ Single-button coding rotation knob: Function confirm button, function select rotation knob, adjustable audio output volume.
- ⑤ Built-in MIC.
- ⑥ Remote receiver module.
- ⑦ TREBLE knob: Adjust the high frequency volume which is input.
- ⑧ AUX2 knob : Adjust the volume of AUN2 line input.
- ⑨ AUM1 knob : Adjust the volume of AUX1 line input.
- ⑩ MASTER knob: Adjust the amplifier audio input volume.
- ⑪ BASS knob: Adjust the low frequency volume which is input.
- ⑫ MIC3 knob : Adjust the volume of MIC3 line input.
- ⑬ MIC2 knob : Adjust the volume of MIC2 line input.
- ⑭ MIC1 knob : Adjust the volume of MIC1 line input.
- ⑮ MIC1: External dynamic microphone input port.

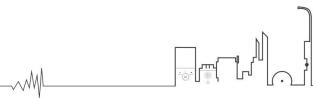


## INTERFACE DESCRIPTION

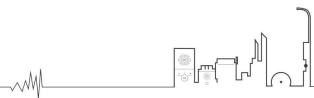
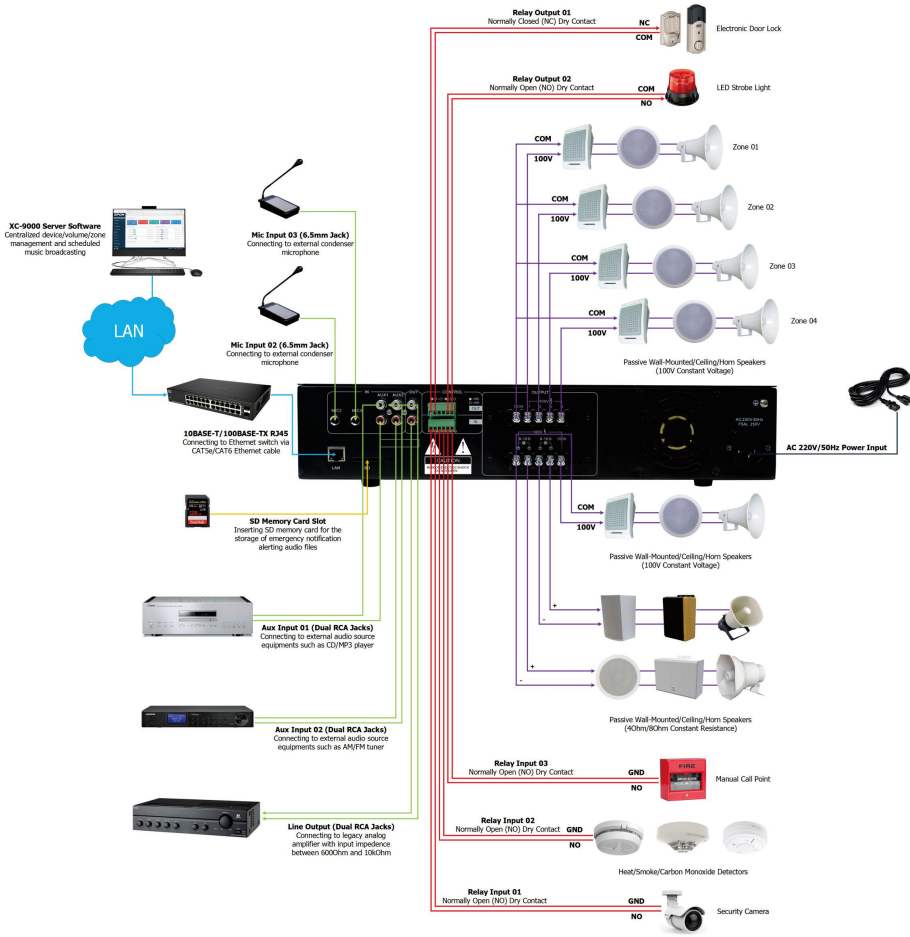
[Rear Panel]



- ①MIC 2、MIC 3 : External condenser microphone .
- ②Network input port : To connect with Ethernet switch .
- ③SD card insert port : To storage timed task file.
- ④AUX 1、AUX 2 Line input port :To connect to external audio sources equipment.
- ⑤AUX Line output port : To connect to legacy amplifier with impedance 600Ω-10k Ω .
- ⑥Relay output 01/02 port : 3-Pin Pluggable Terminal Block (3.81mm Pitch, AWG 26-16), Normally Open (NO) or Normally Closed (NC) Dry Contact .
- ⑦Relay input 01/02/03 port : 2-Pin Pluggable Terminal Block (3.81mm Pitch, AWG 26-16), Normally Open (NO) Dry Contact .
- ⑧Multi-Zone Speaker Output (100V)port : 5-Pin Screw Terminal Block, connecting and driving 100V constant-voltage passive speakers with zoning options .
- ⑨Speaker Output (100V、8Ω~16Ω) port : 2-Pin Screw Terminal Block, connecting and driving 100V constant-voltage passive speakers ; 2-Pin Screw Terminal Block, connecting and driving 8Ω constant-resistance passive speakers (total impedance between 8Ω~16Ω) .
- ⑩Cooling fan
- ⑪AC220V power input port
- ⑫Fuse
- ⑬GND



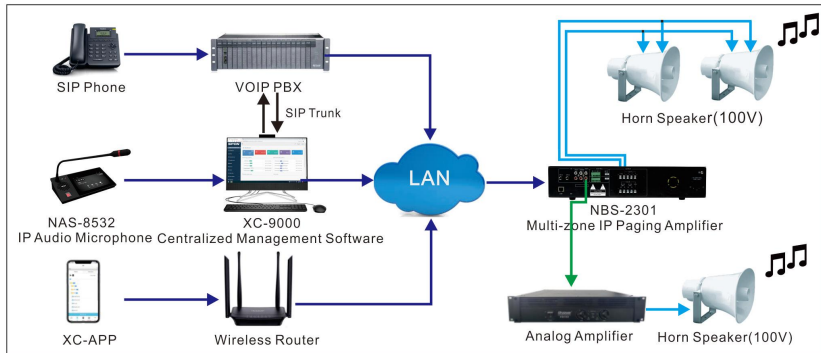
# CONNECTION DIAGRAM



## TYPICAL APPLICATION

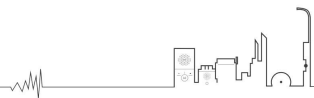
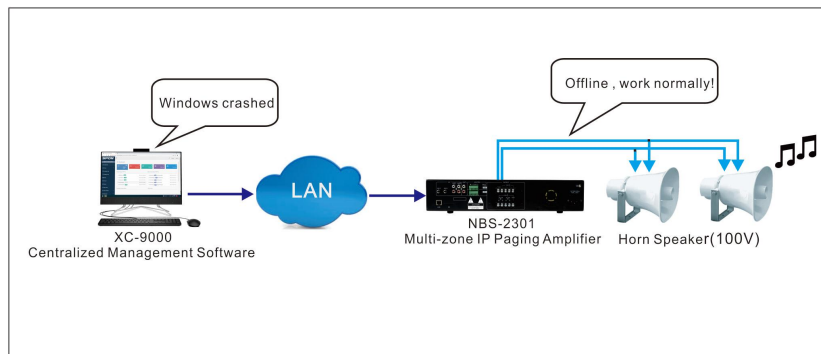
### APPLICATION 1

The Multi-zone IP paging amplifier NBS-2301 can receive real-time voice announcement initiated by the 3-rd party VOIP telephone 、 SPON IP paging microhone/APP(Windows、 Android/IOS),etc. With built-in amplifier and line output interface, the voice can be transmitted to external passive speaker for amplification.



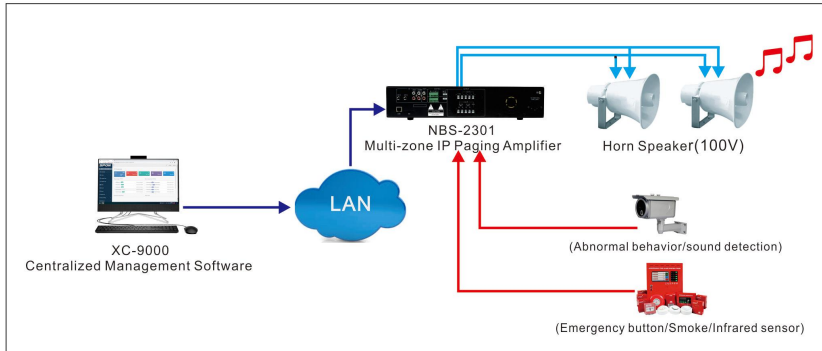
### APPLICATION 2

The Multi-zone IP paging amplifier NBS-2301 support offline timed broadcasting , the offline timed program need to be pre-uploaded on SD card of the amplifier, when the windwos crashed , the system can normally work .

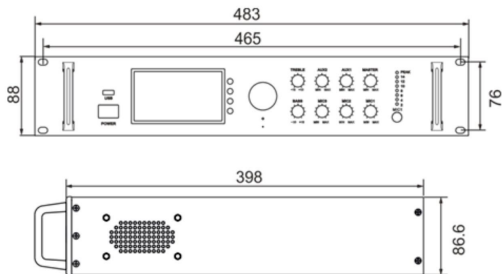


## APPLICATION 3

The Multi-zone IP paging amplifier NBS-2301 support to automatic broadcast alarm tone when receiving relay input signal from the 3-rd party system (For example ,IP camera of surveillance system 、 Emergence button of Fire alarm system) , the alarm tone need to be pre-set on schedule task of XC-9000 software.



## DIMENSION DRAWING



Multi-zone IP amplifier NBS-2301 in rack-mounted installation with 4pcs of white washers head screws (M3\*5). Please refer to the following dimension diagram to put device in suitable cabinet.

