



# N-8000 SERIES IP INTERCOM SYSTEM



***IP Network-Compatible Intercom System with  
Packet Audio Technology developed with cutting-edge  
TOA technological strengths for greater versatility  
and improved sound quality***

# Ultra-reliable communication systems developed experience in emergency broadcast systems,

Designed to offer no-compromise reliability, the N-8000 is an IP network-compatible intercom system using packet audio technology. Monitoring can be real-time on an internet browser as the system is not server-based. System frequency response extends to 7 kHz, allowing even PA-delivered announcements to be extremely clear and easily intelligible. The unique TOA intercom system achieves a high reliability system that guarantees "fast, accurate and reliable" communications. A communication selection can be made by users as needed -- the "Master-to-Master" system optimized for duplex conversation at venues such as factories and hospitals, or the "Master-to-Sub" system which is particularly suited for schools, prisons and similar locations. As the N-8000 has been designed for system flexibility with an open architecture, interfacing with other systems as well as surveillance cameras, telephones, access controls, and so forth is easy. System functions are numerous ranging from conversation, paging broadcasts, BGM broadcasts, and various security functions including emergency paging/broadcasting and audio triggering. Designed for maximum expandability from simple systems to large, complex large systems. A single N-8000 system can connect up to a maximum of 3,072 stations and can assign up to 192 zones for paging.

The TOA N-8000 Series is an ideal solution for applications that require a conventional communication system that can accommodate emergency communication needs as well.



## **Performance comparison with IP telephone-based systems**

The N-8000 delivers outstanding audio quality that maintains perfect clarity and intelligibility even when interfacing with PA equipment for delivery.

Operational system costs can stay low since network maintenance cost is the only requirement.

Calls can be made instantly, enhancing system use for frequent business communications.

Stations can also be used under special circumstances such as the use of models not compatible with IP phones.

with TOA's accumulated expertise and ready for any requirement.

## System Overview

Up to 3,072 stations



N-8500MS N-8600MS



N-8000MS N-8010MS



N-8510MS



N-8020MS N-8011MS



N-8540DS N-8640DS



N-8050DS N-8031MS

up to 16 sub-stations per Exchange



RS-150



RS-144



RS-160



RS-143



RS-170



RS-142



RS-180



RS-140

up to 16 sub-stations per Exchange



RS-450



RS-460



RS-470



RS-480

IP station



Exchange (N-8000EX)



Exchange (N-8000RS)



Exchange (N-8400RS)

Up to 192 components

Network



N-8000MI



PBX



N-8000CO



Analog Telephone



N-8000AL



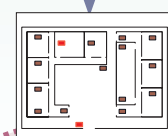
Analog Telephone



N-8000AF



N-8000DI

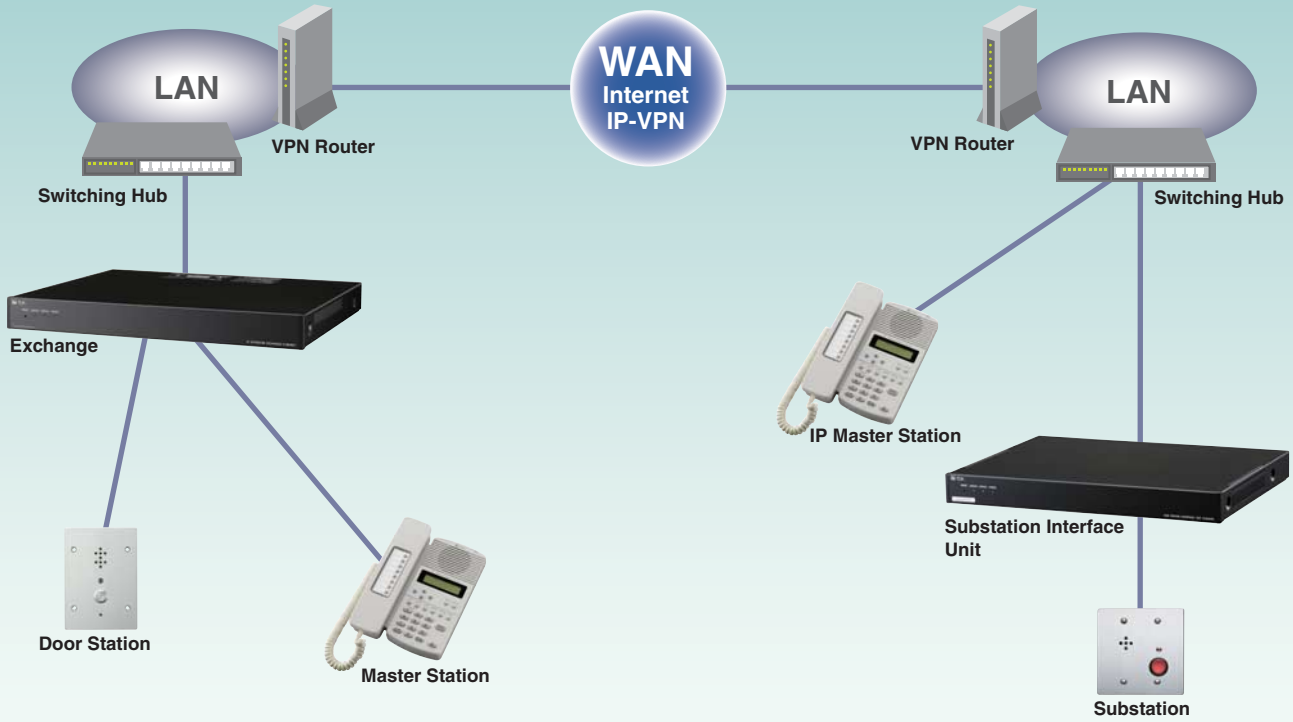


Up to 6,144 contact inputs and outputs

# N-8000 System Advantage

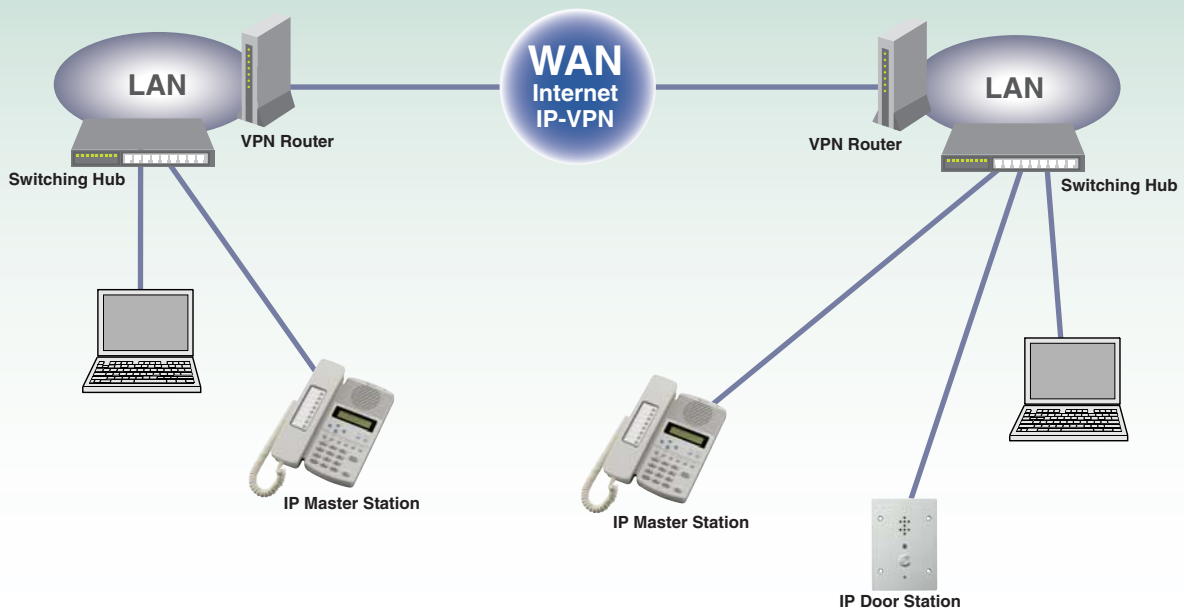
## Server-less System

Since the N-8000 Series is a **server-less system**, it is particularly cost-effective when constructing a small-scale system as a costly server is not needed. Another advantage in not being server-reliant is being free from total system failure when a server goes down, providing users with more reliable operation.



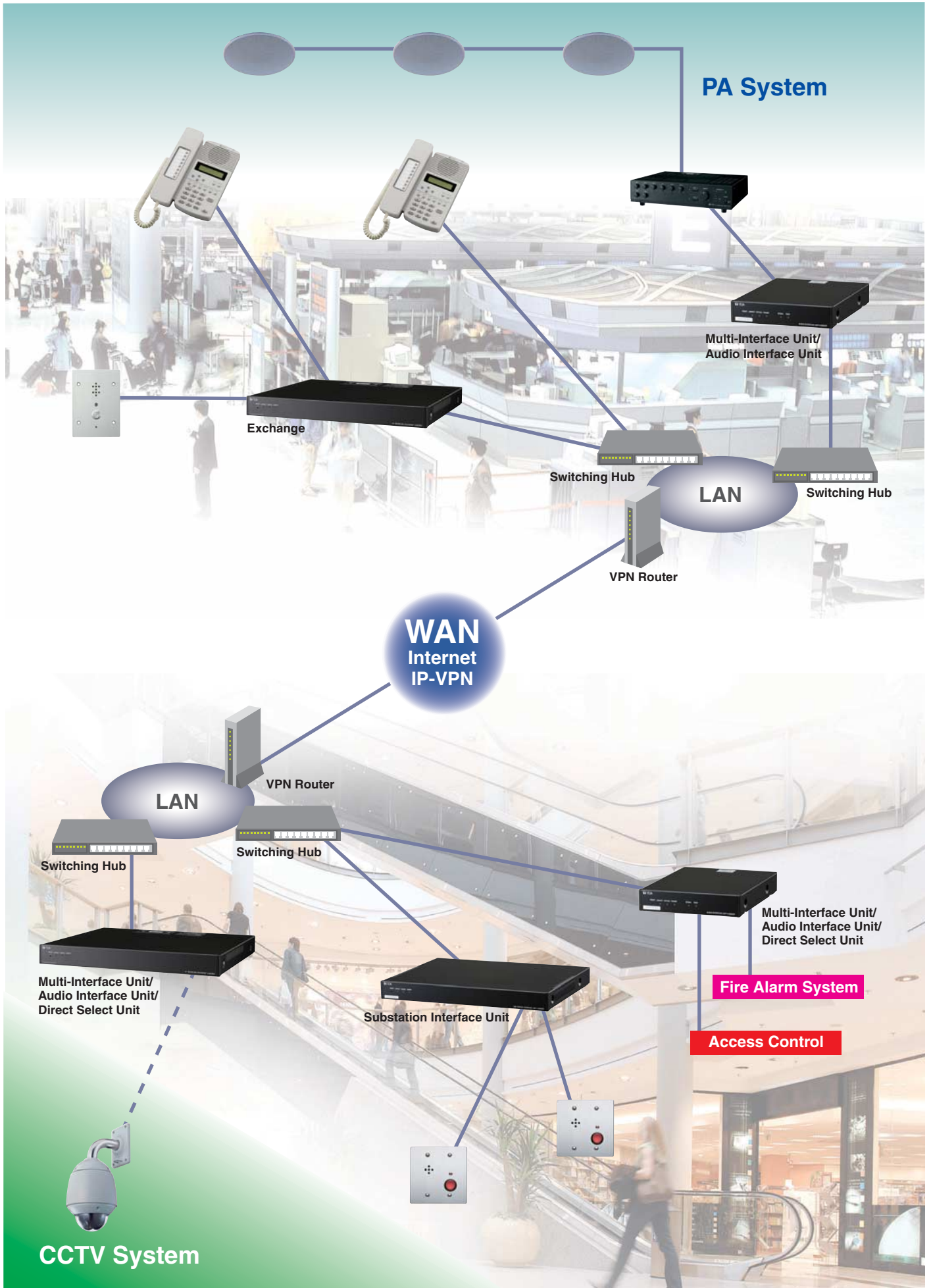
## Exchange-less System

The N-8000 Series allows an **exchange-less system** to be set up. This is a significant advantage for configuring a small-scale system with a limited number of terminals. As long as bandwidth is secured, communications can be instantly established simply by connecting the N-8000 to an existing network.





# Integration with PA and CCTV system



# Features & Functions

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## System Features

- System configuration by intuitive software through LAN
- "Master-to-Master" or "Master-to-Sub" station communication
- Selectable two wiring system:
  - 2-core shielded type or 4-wire type connection
- Integration with such other system as access control, voice alarm system, CCTV system
- Ambient noise control
- Time correction function
- Operation and stream logs
- System diagnosis



## Basic Communication Features

- Handset / Hands-free conversation
- Recall • Redial • Camp on busy • Mic-Off
- Remote response • Single digit dialing • Call transfer
- Comprehensive call forwarding features
- Three-party conference



## Expandable system

The cost-effective N-8000 system can easily be configured to any scale to match the user's specific requirements. Up to 192 exchanges, IP stations and assorted interfaces can be connected for a maximum of 3,072 stations.

## No boundary limits

The N-8000 is an IP network-compatible system, allowing local areas to be linked to cities in other countries. Under centralized PC control using TOA software, all exchanges, IP stations and interface units can be connected to LANs, WANs and fiber optic networks.

## Integrating communications and safety

The N-8000 integrates several systems under efficient central control -- from duplex conversations between stations, paging broadcasts, scheduled broadcasts, to background music broadcasts and similar functions. The N-8000 also provides master control, connecting to pre-existing intercom, alarm, surveillance, door entry/departure authorization and similar other systems.

## Simple installation and maintenance

N-8000 installation is simple and requires very little site work as existing wiring can be used and components plugged in. TOA's dedicated software includes a maintenance application for system status, troubleshooting, logging as well as system updating and remote control applications.

## Long-term cost-effectiveness

All calls between N-8000 system stations are free of charges to reduce basic telephone bills. N-8000 system architecture lowers long-term total ownership costs as the system is open-ended and system scale can be configured as required.

## Excellent audio advantages

The N-8000 delivers high-quality audio for background music, paging and recording applications.

## Full logging options

A full menu of operation and stream logging options include verifying operation, voice communications and line supervision logs, all easily archived for instant recall.

## Security both in and out of the system

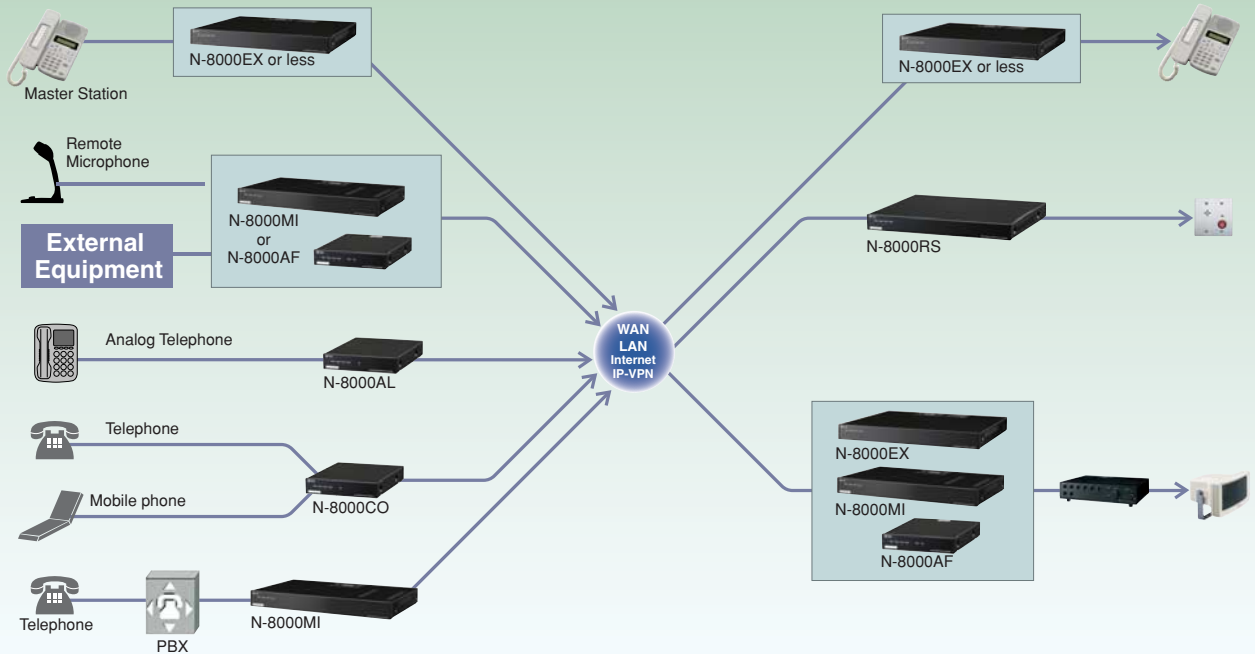
The N-8000 system minimizes downtime with a 24/7 internal surveillance function. A packet audio protocol guards against wiretapping.

# Key Functions

## Supporting Multi-Communications

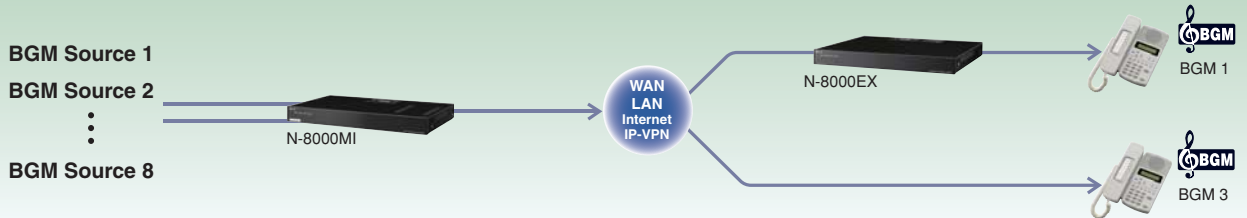
### Paging Function

Allows the master station as well as external input equipment to initiate paging to PA equipment or the speakers of each station. Use the setup software to configure up to 192 paging zones to which paging calls can be made as desired.



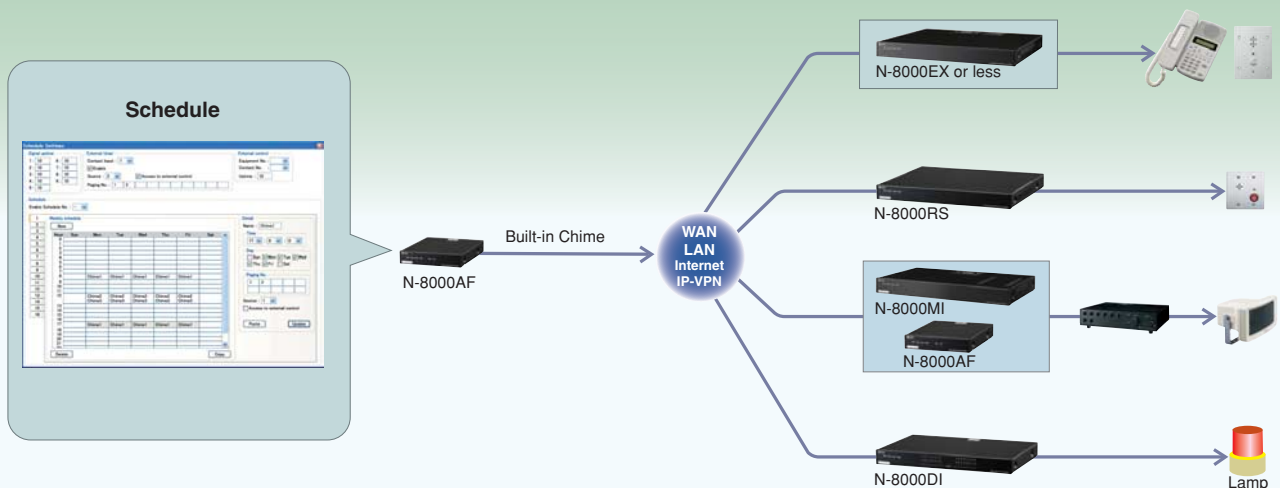
### BGM Distribution

Enables music from any of eight BGM sources connected to the N-8000MI to be distributed through speakers at the master and door stations.



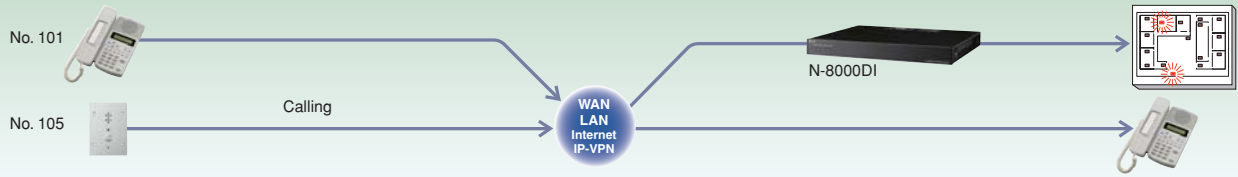
### Time Signal Function

Enables the built-in chime of the N-8000AF or an externally connected audio source to be broadcast to stations and PA equipment according to a preset schedule.



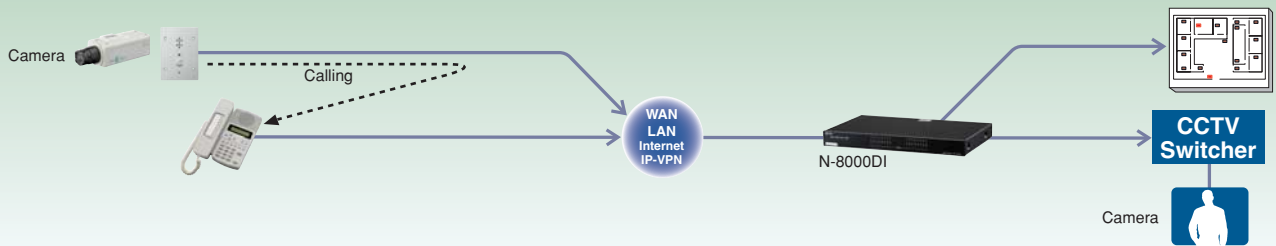
## Direct Select

This creates an operation panel equipped with indicator lamps and control buttons for the master station. This panel is compatible with other stations, assigning each channel of the contact input and output to the master station and substations for identifying which substation is calling the programmed master station.



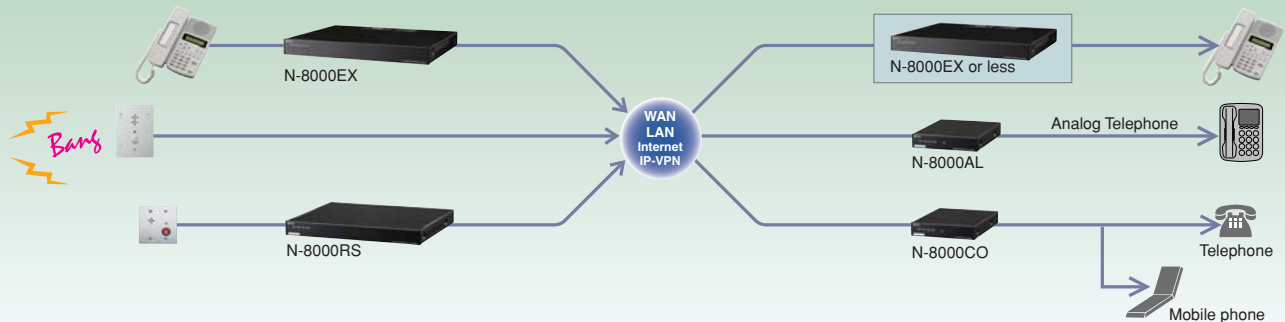
## CCTV Interface

When a CCTV monitor-equipped station receives and answers a call, the site of the station making the call is displayed on the monitor.



## Scan Monitor

Allows the master station, as well as analog telephones and external telephones to audio monitor two or more preprogrammed stations, making remote security monitoring possible.



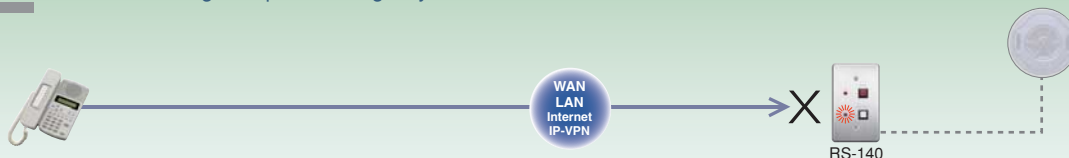
## Door Remote Control

Makes it possible for when the master station engaged in ongoing conversation with the N-8540DS or the N-8050DS Door Station to easily execute door lock control through a contact output.



## Privacy

The RS-140 Switch Panel offers a Privacy Mode that refuses paging calls from connected speakers and can prevent scan monitoring except for emergency calls.

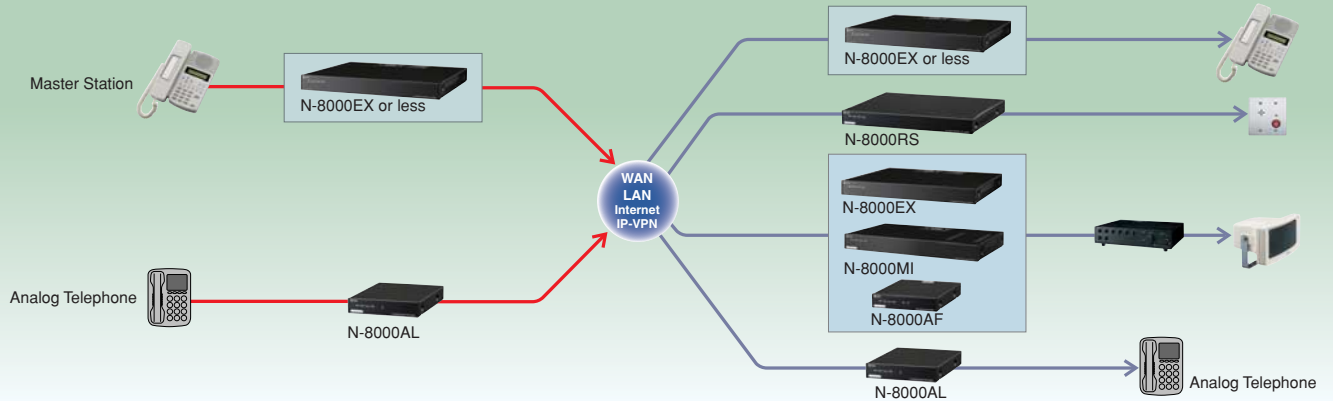




# Security and Safety

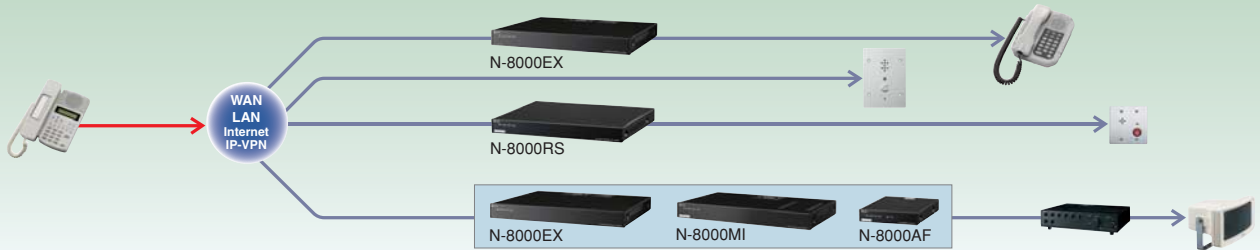
## Emergency All-Group Paging

A function that suspends ongoing conversations, paging and other operations to allow emergency all-group paging to all stations, PA equipment and lines.



## Message Paging

Initiates emergency paging with prerecorded emergency messages on the IP Master Stations.



## Emergency call

Pushing the call button twice quickly commands the door station and substation to make an emergency call to master stations and analog telephones.



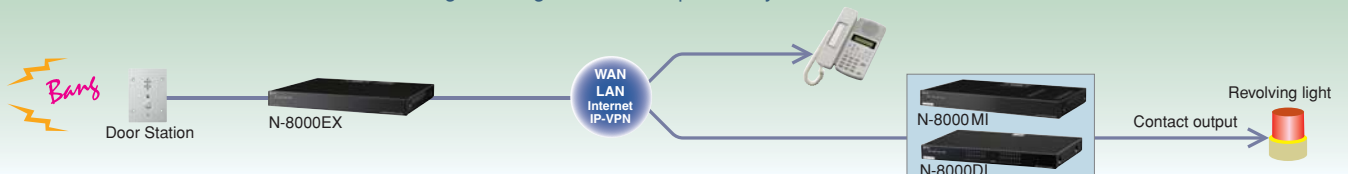
## Recording

Any conversation between master station/telephones and during a three-party conference, paging messages, and scan monitored audio can be recorded on recording equipment connected to the N-8000AF.































## Audio Trigger

If an auto input to a pre-programmed door station's microphone fulfills preset conditions (detection time or signal level), the door station initiates an alarm. An example would be making a call to the designated master station or generating a contact output of any other interface units.



# Station Selection Chart

	Desk-top	with bracket	Wall-mount	Applicable Exchange / Interface			
<b>Master / Door Stations</b>	 N-8000MS		 N-8050DS	 N-8050SB	 N-8000EX		
	 N-8010MS						
	 N-8011MS		 N-8031MS	 N-8031SB	 N-8010EX		
	 N-8020MS						
<b>RS Sub-stations</b>	2-core shielded type station		 RS-150	 RS-160	 N-8000RS		
			 RS-140			 RS-180	 N-8010RS
			 RS-450	 RS-460		 RS-470	
			 RS-144			 RS-480	
			 RS-143				
	4-wire type station					 N-8400RS	
<b>IP Stations</b>	 N-8600MS		 N-8640DS				
	 N-8500MS						
	 N-8510MS		 N-8540DS				

# Products Lineup



## **N-8000EX** IP Network Intercom Exchange

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Sixteen-station capacity  
Stations connect to exchange via twisted pair cable  
Speech links: 4 internal/8 external  
Two audio paging outputs  
Two relay outputs  
420 (W) × 44.3 (H) × 349 (D)mm (16.54" × 1.74" × 13.75")  
4.2kg (9.26 lb)



## **N-8010EX** IP Network Intercom Exchange

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Sixteen-station capacity  
Stations connect to exchange via twisted pair cable  
Speech links: 1 internal/2 external  
420 (W) × 44.3 (H) × 349 (D)mm (16.54" × 1.74" × 13.75")  
4.2kg (9.26 lb)



## **N-8000MI** Multi Interface Unit

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Audio Inputs for BGM, External Tone or Paging  
Two audio line inputs (0 dBV) with two trigger inputs  
Two audio line outputs (0 dBV) with two relay outputs  
Contact Bridge  
Sixteen contact inputs  
Sixteen relay outputs  
Telephone Interface (E&M type), two channels  
Function to diagnose system line and network statuses  
420 (W) × 44.3 (H) × 239.5 (D)mm (16.54" × 1.74" × 9.43")  
2.8kg (6.17 lb)



## **N-8000AF** Audio Interface Unit

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
One MIC/LINE audio line input  
One audio line output  
Eight contact inputs  
Eight contact outputs  
Time synchronization input  
Built-in timer and chime  
210 (W) × 44.3 (H) × 267 (D)mm (8.27" × 1.74" × 10.51")  
1.7kg (3.75 lb)



## **N-8000AL** Telephone Interface Unit

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Single telephone line allowing an analog telephone to be connected  
210 (W) × 44.3 (H) × 267 (D)mm (8.27" × 1.74" × 10.51")  
1.7kg (3.75 lb)



## **N-8000DI** Direct Select Unit

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
32 contact inputs  
32 contact outputs  
Function to diagnose system line and network statuses  
420 (W) × 44.3 (H) × 267 (D)mm (16.54" × 1.74" × 10.54")  
2.8kg (6.17 lb)



### **N-8000CO C/O Interface Unit**

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Analog central office line circuit allowing the stations to make and receive calls to and from the telephone line  
210 (W) × 44.3 (H) × 267 (D)mm (8.27" × 1.74" × 10.51")  
1.7kg (3.75 lb)



### **N-8000RS Sub Station Interface Unit**

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Up to 16 substations connectable using two-core shielded cable  
Speech links: 2  
420 (W) × 44.3 (H) × 349 (D)mm (16.54" × 1.74" × 13.75")  
4.2kg (9.26 lb)



### **N-8010RS Sub Station Interface Unit**

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Up to 16 substations connectable using two-core shielded cable  
Speech links: 1  
420 (W) × 44.3 (H) × 325.5 (D)mm (16.54" × 1.74" × 12.81")  
3.8kg (8.38 lb)



### **N-8400RS Sub Station Interface Unit**

10/100 Base-TX Ethernet network connection  
Occupies one network node (192 max.)  
Up to 16 substations connectable using two pairs of twisted pair cables  
Speech links: 2  
420 (W) × 44.3 (H) × 325.5 (D)mm (16.54" × 1.74" × 12.81")  
4kg (8.82 lb)



### **N-8600MS IP Multifunctional Master Station**

Handset or hands-free duplex communication  
Connects directly to network (10/100Base TX)  
Occupies one network node (192 max.)  
Power-over-Ethernet compatible or optional power supply, model AD-1215P  
Two RJ-45 network connectors (one for network, one for PC)  
Alphanumeric LCD display (32 character)  
Eight user-programmable speed dial keys  
Headset terminal  
External speaker terminal (0.5 W / 8 ohms)  
Optional wall-mount bracket, model YC-280  
148 (W) × 208 (H) × 70.5 (D)mm (5.83" × 8.19" × 2.78")  
(excluding a curly cord section)  
710g (1.7 lb)



### **N-8500MS IP Multifunctional Master Station**

Handset or hands-free duplex communication  
Connects directly to network (10/100Base TX)  
Occupies one network node (192 max.)  
Power-over-Ethernet compatible or optional power supply, model AD-1215P  
Two RJ-45 network connectors (one for network, one for PC)  
Alphanumeric LCD display (32 character)  
Eight user-programmable speed dial keys  
Headset terminal  
External speaker terminal (0.6 W / 8 ohms)  
Optional wall-mount bracket, model YC-280  
148 (W) × 208 (H) × 70.5 (D)mm (5.83" × 8.19" × 2.78")  
(excluding a curly cord section)  
810g (1.79 lb)



### **N-8510MS IP Standard Master Station**

Handset or hands-free duplex communication  
Connects directly to network (10/100Base TX)  
Occupies one network node (192 max.)  
Power-over-Ethernet compatible or optional power supply, model AD-1215P  
Two RJ-45 network connectors (one for network, one for PC)  
Contact input terminal  
Optional wall-mount bracket, model YC-280  
148 (W) × 208 (H) × 70.5 (D)mm (5.83" × 8.19" × 2.78")  
(excluding a curly cord section)  
740 g (1.63 lb)



### **N-8640DS IP Door Station**

Hands-free duplex communication  
Connects directly to network (10/100Base TX)  
Occupies one network node (192 max.)  
Power-over-Ethernet compatible or optional power supply, model AD-1215P  
Hands-free duplex communication  
Separate mic. and speaker  
Control output (open collector)  
IP65 rated  
Optional flush-mount back-box, model YC-150  
Optional surface-mount back-box, model YS-13A  
115 (W) × 162 (H) × 58.5 (D)mm (4.53" × 6.38" × 2.3")  
780g (1.72 lb)



### **N-8540DS IP Door Station**

Hands-free duplex communication  
Connects directly to network (10/100Base TX)  
Occupies one network node (192 max.)  
Power-over-Ethernet compatible or optional power supply, model AD-1215P  
Hands-free duplex communication  
Separate mic. and speaker  
Control output (open collector)  
IP54 rated  
Optional flush-mount back-box, model YC-150  
Optional surface-mount back-box, model YS-13A  
115 (W) × 162 (H) × 55.1 (D)mm (4.53" × 6.38" × 2.17")  
700g (1.54 lb)



### **N-8000MS Multifunctional Master Station**

Handset or hands-free duplex communication  
Two-wire connection to N-8000EX or N-8010EX Exchange  
Alphanumeric LCD display (32 character)  
Eight user-programmable speed dial keys  
Headset terminal  
External speaker terminal (0.6 W / 8 ohms)  
Optional wall-mount bracket, model YC-280  
148 (W) × 208 (H) × 70.5 (D)mm (5.83" × 8.19" × 2.78")  
(excluding a curly cord section)  
737 g (1.62 lb)



### **N-8010MS Standard Master Station**

Handset or hands-free duplex communication  
Two-wire connection to N-8000EX or N-8010EX Exchange  
Optional wall-mount bracket, model YC-280  
148 (W) × 208 (H) × 70.5 (D)mm (5.83" × 8.19" × 2.78")  
(excluding a curly cord section)  
700 g (1.54 lb)





### **N-8011MS Standard Hands-Free Master Station**

Hands-free duplex communication  
 Two-wire connection to N-8000EX or N-8010EX Exchange  
 Headset terminal  
 External speaker terminal (0.6 W / 8 ohms)  
 Optional wall-mount bracket, model YC-290  
 92 (W) × 195 (H) × 56.1 (D)mm (3.62" × 7.68" × 2.21")  
 400g (0.44 lb)



### **N-8020MS Industrial-Use Master Station**

Heavy duty dustproof and waterproof construction (IP54 rating)  
 Two-wire connection to N-8000EX or N-8010EX Exchange  
 Handset or hands-free duplex communication  
 External speaker terminal (0.6 W / 8 ohms)  
 Control output  
 Optional wall-mount bracket, model YC-280  
 170 (W) × 220 (H) × 97.8 (D)mm (6.69" × 8.66" × 3.85")  
 (excluding a curly cord section)  
 1kg (2.20 lb)



### **N-8050DS Door Station**

Two-wire connection to N-8000EX or N-8010EX Exchange  
 Hands-free duplex communication  
 Separate mic and speaker  
 Control output (open collector)  
 IP54 rated  
 Optional flush-mount back-box, model YC-150  
 Optional surface-mount back-box, model YS-13A  
 Also available as PCB assy., model N-8050SB  
 115 (W) × 162 (H) × 54 (D)mm (4.53" × 6.38" × 2.13")  
 680g (1.50 lb)



**RS-191**

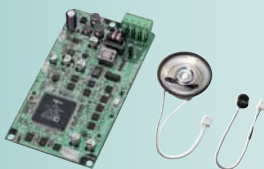
### **N-8031MS Flush-Mount Hands-Free Master Station**

Two-wire connection to N-8000EX or N-8010EX Exchange  
 Hands-free duplex communication  
 External dial inputs (7, 8, 9 and C keys)  
 Optional Handset, model RS-191  
 Optional flush-mount back-box, model YC-241  
 Optional surface-mount back-box, model YC-251  
 Also available as PCB assy., model N-8031SB  
 115 (W) × 254 (H) × 54.6 (D)mm (4.53" × 10.0" × 2.15")  
 850g (1.87 lb)



### **N-8031SB Hands-Free Master Station Board Unit**

N-8031SB PCB for custom station applications  
 Speaker and microphone included  
 External dial inputs (7, 8, 9 and C keys) plus switch matrix connection  
 LED Status Indicator output  
 Optional Handset, model RS-191  
 70 (W) × 185 (H) × 20.6 (D)mm (2.76" × 7.28" × 0.81")  
 205g (0.45 lb) (including accessories)



### **N-8050SB Hands-Free Substation Board Unit**

N-8050DS PCB for custom station applications  
 Speaker and microphone included  
 Control output (open collector)  
 Call switch input  
 LED Status Indicator output  
 67 (W) × 128.3 (H) × 26 (D)mm (2.64" × 5.05" × 1.02")  
 100g (0.22 lb) (including accessories)



### RS-150 Substation

Provides half-duplex communication  
Hairline brushed stainless steel faceplate  
Connects to N-8000RS/8010RS using two-core shielded cable  
120 (W) × 120 (H) × 48.5 (D)mm (4.72" × 4.72" × 1.91")  
410g (0.90 lb)



### RS-160 Substation

Provides half-duplex communication  
Heavy-duty brushed stainless steel faceplate  
Vandal resistant call button  
Connects to N-8000RS/8010RS using two-core shielded cable  
120 (W) × 120 (H) × 57.5 (D)mm (4.72" × 4.72" × 2.26")  
540g (1.19 lb)



### RS-170 Substation

Provides half-duplex communication.  
Heavy-duty brushed stainless steel faceplate  
Vandal resistant call button  
Weather resistant conformal printed circuit board coating  
Connects to N-8000RS/8010RS using two-core shielded cable  
120 (W) × 120 (H) × 57.5 (D)mm (4.72" × 4.72" × 2.26")  
540g (1.19 lb)



### RS-180 Substation

Provides half-duplex communication  
Heavy-duty brushed stainless steel faceplate  
Red vandal resistant call button  
Control output - open collector type for external relay control  
Weather resistant conformal printed circuit board coating  
Connects to N-8000RS/8010RS using two-core shielded cable  
120 (W) × 120 (H) × 58.5 (D)mm (4.72" × 4.72" × 2.30")  
570g (1.26 lb)



### RS-140 Switch Panel

Call button and privacy button  
Talk back conversation  
Prevents from in-coming call by pushing a privacy switch  
Handset conversation available by using with RS-141  
Hands-free conversation with master station by connecting a high impedance speaker  
Connects to N-8000RS/8010RS using two-core shielded cable



### RS-450 Substation

Provides half-duplex communication  
Hairline brushed stainless steel faceplate  
Built-in electret condenser microphone  
Connects to N-8400RS using two pairs of twisted pair cables  
120 (W) × 120 (H) × 48.5 (D)mm (4.72" × 4.72" × 1.91")  
410g (0.90 lb)



### RS-142 IP Intercom Switch Board

For 2 momentary switches  
Handset conversation available by using with RS-141  
Connects to N-8000RS/8010RS using two-core shielded cable



### RS-460 Substation

Provides half-duplex communication  
Heavy-duty brushed stainless steel faceplate  
Vandal resistant call button  
Built-in electret condenser microphone  
Connects to N-8400RS using two pairs of twisted pair cables  
120 (W) × 120 (H) × 57.5 (D)mm (4.72" × 4.72" × 2.26")  
540g (1.19 lb)



### RS-143 IP Intercom Switch Panel

Call button  
Handset conversation available by using with RS-141  
Hands-free conversation with master station by connecting a high impedance speaker  
Connects to N-8000RS/8010RS using two-core shielded cable



### RS-470 Substation

Provides half-duplex communication.  
Dustproof and waterproof construction (IP54 rating)  
Heavy-duty brushed stainless steel faceplate  
Vandal resistant call button  
Weather resistant conformal printed circuit board coating  
Built-in electret condenser microphone  
Connects to N-8400RS using two pairs of twisted pair cables  
120 (W) × 120 (H) × 57.5 (D)mm (4.72" × 4.72" × 2.26")  
540g (1.19 lb)



### RS-144 IP Intercom Switch Panel

Emergency button and normal button  
Handset conversation available by using with RS-141  
Hands-free conversation with master station by connecting a high impedance speaker  
Connects to N-8000RS/8010RS using two-core shielded cable



### RS-480 Substation

Provides half-duplex communication  
Dustproof and waterproof construction (IP54 rating)  
Heavy-duty brushed stainless steel faceplate  
Red vandal resistant call button  
Control output - open collector type for external relay control  
Weather resistant conformal printed circuit board coating  
Built-in electret condenser microphone  
Connects to N-8400RS using two pairs of twisted pair cables  
120 (W) × 120 (H) × 58.5 (D)mm (4.72" × 4.72" × 2.30")  
570g (1.26 lb)



### RS-141 Option Handset

Indoor handset used with RS-140 Switch Panel



### RS-481 Option Handset

Indoor handset used with RS-480 Substation



### YC-850 Wall Mount Bracket

Designed to mount N-8000RS, N-8010RS, N-8400RS, N-8000DI, N-8000AF, N-8000AL and N-8000CO interface units on a wall.



### YC-280 Wall Mount Bracket

Designed to mount N-8000MS, N-8010MS, N-8020MS, N-8500MS and N-8510MS on a wall.



### YC-290 Wall Mount Bracket

Designed to mount N-8011MS on a wall.



### YC-251 Surface-Mount Back Box

Designed to mount N-8031MS Flush-mount Hands-free Master Station on a wall.



### YC-241 Flush-Mount Back Box

Designed to surface-mount N-8031MS Flush-mount Hands-free Master Station on a wall.



### YC-150 Flush-Mount Back Box

Designed to flush-mount N-8050DS and N-8540DS Door Stations on a wall.



### YC-801 Flush-Mount Box

Designed to flush-mount RS-140 Switch Panel on a wall.



### YS-13A Surface-Mount Back Box

Designed to surface-mount N-8050DS and N-8540DS Door Stations on a wall.



### YC-802 Wall Mount Box

Designed to mount RS-140 Switch Panel on a wall.



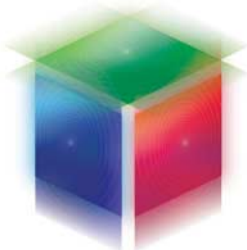
### YC-302 2-Gang Electrical Box

The YC-302 is a 2-Gang electrical box (with cover) of wall flush mount type.



### AD-1215P AC Adapter

The AD-1215P is an AC adapter to operate the IP Station on AC.



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