N-8000 Series & N-SP80 SIP System
IP & SIP Intercom Systems

Schools
Corporate Buildings
Commercial Buildings
Hospitals / Institutions
Parking Garages
Transportation
N-SP80 SIP Intercom System

A smart product that’s easy to set up.
The N-SP80 opens up the world of access control.

Overview

N-SP80 SIP Intercom Station

Talk, See and Control via Network

The N-SP80 Series SIP Intercom Station employs the Session Initiation Protocol to enable both audio and video communication. Compatible with the G.722 audio codec, the N-SP80 supports high-quality audio and video transmission. The device features easy unlocking operation that gives you simple access to controls. This makes it ideal for installing at a building entrance, carpark gate, or other point of entry. And with TOA you’re assured of thorough after-sales service – we’re a specialist manufacturer of security and audio equipment serving customers in over 120 countries worldwide.

The N-SP80 series SIP Video Intercom System offers flexible audio and video communications using standard SIP and Onvif protocols. It can integrate with external SIP compatible systems through a SIP server. Peer-to-Peer mode is also available for standalone system operations without a SIP server environment. TOA’s N-8000SG SIP gateway software is also available to integrate with TOA’s N-8000 IP intercom system.
Applications

N-SP80
SIP Intercom Station

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Overview

Applications

Product Features

Key Benefits

System Examples

Product Specs

Product Features

N-SP80VS1
SIP Video Door Station

- Robust and weatherproof hardware
- Built-in AEC (acoustic echo canceller) enables intelligible full-duplex communication
- Less cabling thanks to PoE
- 3MP camera resolution
- Photosensitive sensor detects brightness and turns on infrared light to capture pictures in darkness
- Flexible LED color and behavior setting
- ONVIF compatible
- Anti-vandal function via external control input

N-SP80AS1
SIP Audio Door Station

- Robust and weatherproof hardware
- Built-in AEC (acoustic echo canceller) enables intelligible full-duplex communication
- Less cabling thanks to PoE
- Flexible LED color and behavior setting
- Anti-vandal function via external control input

N-SP80MS1
SIP Multimedia Station

- Intuitive operation with 7-inch touch screen and dial keys
- Less cabling thanks to PoE
- Address book stores up to 3000 names
- Forwarding setting (always/call/no answer)
- DND (do not disturb) – ignore incoming calls
- Auto Redial – redial an unsuccessful call a set number of times within a designated interval

System Features

- Supports G.711a, G.711μ, G.722, G.729 audio codec’s for high-quality conversation
- Unlimited number of stations are connectable in one system using peer-to-peer mode
- System configuration and setting via web browser
- Secondary SIP server for server redundancy
- Detects server disconnection
- Flexible ringtone setting
TOA’s N-SP80 SIP Intercom System offers flexible audio and video communications using standard SIP and Onvif protocols. It is compatible with a variety of SIP servers. The N-SP80 can work as a stand-alone system or it can be integrated with TOA’s N-8000 IP Intercom system via the N-8000SG SIP Gateway to audible communications as well as door access control.

Key Benefits

Supports peer-to-peer communication
Build a system with stations only—no need for an SIP server.

Compatible with variety of SIP servers
Where an SIP server is already in place, adding an N-SP80 station is easy. It’s compatible with Cisco CUCM, Asterisk and Genetec Sipelia.*

* All product and company names are trademarks or registered trademarks of their respective owners.
Key Benefits

Doors unlockable from master station keypad

Can be part of a scalable system

The N-SP80VS1 SIP Video Door Station complies with ONVIF Profile S, so it can be integrated with third-party systems.

... can be done easily with the latest Video Intercom System.
System Examples

The N-SP80MS1 can be used in tandem with TOA’s N-8000 to deliver public announcements and support access control. Adding the optional N-8000SG allows you to add a video access control function to an existing N-8000 Series intercom.
**System Examples**

**Commercial Building**

Standard Security Application, such as Building entrance, Parking. The N-SP80MS SIP Multimedia Station can communicate with the N-SP80V5S Video Door Station or N-SP80VS5 Video Door Station. Door remote control function can be directly operated from Multimedia Station to the door stations. The N-SP80 Series are compatible with a variety of SIP servers, e.g., the Genetec Security Center that the Genetec Security Center can communicate and have door open with the N-SP80 Series Door Station. The SIP multimedia station can also integrate with the N-8000 system with paging function, door remote control and conversation function.

**Retrofit Installation**

Communication & Door open

**Schools**

Paging can be from SIP Multimedia in administration room to the classroom with the integration of N-8000 system as well as PA system. Conversation and door open can be done from N-SP80 SIP Multimedia Station in administration room to the entrance.

**Overview**

Applications

Product Features

Key Benefits

System Examples

Product Specs

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**Specifications**

**Specifications**

**N-SP80MS1**

- **Power Supply**: PHE-LED400/600/600(12V DC or 12V AC) with optional AC adapter
- **Speakerphone**: Hands-free, Handset, Headset communication
- **Audio Frequency Range**: 100 Hz - 15 KHz
- **Screen Size**: 7" TFT color screen (640x480, 16:9, Wega60)
- **Camera**: Built-in 1/3" CMOS, 300,000 pixels, Max. 500 TV lines, Full-screen resolution
- **Video**: CEF, DVIC, ECF, ECH, VGA, 640x480, 720p, 1080p
- **Network Protocol**: IPv4/IPv6, HTTP, RTP, SNMP, DNS, H.323, H.264, MS, IP
- **RJ-45 ports**: 8 ports
- **Audio Compression**: 48kHz, 44.1kHz, 32kHz
- **Dimensions**: W98.1 x D99.1 x H60.5 mm (38.7" x 39.0" x 2.36"")
- **Accessories**: 1 standard, 1 Cuff link, 1 call cable

**N-SP80V51**

- **Power Supply**: PHE-LED400/600/600(12V DC or 12V AC)
- **Speakerphone**: Hands-free, Handset, Headset communication
- **Audio Frequency Range**: 100 Hz - 15 KHz
- **Screen Size**: 7" TFT color screen (640x480, 16:9, Wega60)
- **Camera**: Built-in 1/3" CMOS, 300,000 pixels, Max. 500 TV lines, Full-screen resolution
- **Video**: CEF, DVIC, ECF, ECH, VGA, 640x480, 720p, 1080p
- **Network Protocol**: IPv4/IPv6, HTTP, RTP, SNMP, DNS, H.323, H.264, MS, IP
- **RJ-45 ports**: 8 ports
- **Audio Compression**: 48kHz, 44.1kHz, 32kHz
- **Dimensions**: W98.1 x D99.1 x H60.5 mm (38.7" x 39.0" x 2.36"")
- **Accessories**: 1 standard, 1 Cuff link, 1 call cable

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**N-SP80AS1**

- **Power Supply**: PHE-LED400/600/600(12V DC or 12V AC)
- **Speakerphone**: Hands-free, Handset, Headset communication
- **Audio Frequency Range**: 100 Hz - 15 KHz
- **Screen Size**: 7" TFT color screen (640x480, 16:9, Wega60)
- **Camera**: Built-in 1/3" CMOS, 300,000 pixels, Max. 500 TV lines, Full-screen resolution
- **Video**: CEF, DVIC, ECF, ECH, VGA, 640x480, 720p, 1080p
- **Network Protocol**: IPv4/IPv6, HTTP, RTP, SNMP, DNS, H.323, H.264, MS, IP
- **RJ-45 ports**: 8 ports
- **Audio Compression**: 48kHz, 44.1kHz, 32kHz
- **Dimensions**: W98.1 x D99.1 x H60.5 mm (38.7" x 39.0" x 2.36"")
- **Accessories**: 1 standard, 1 Cuff link, 1 call cable
Specifications

Options

N-8000SG Q SIP Gateway
The N-8000SG Q SIP Gateway allows you to connect the TOA’s N-8000 IP Intercom System to a SIP phone system.

SP-11N Module
The SP-11N is a VoIP phone paging module supported SIP (Session Initiation Protocol) with Auto-answer function. This module can be used with TOA’s 9000M2 Series, A-700 Series, A-900 Series and BG Series amplifiers.

*Availability differs from countries, Please contact your nearest dealer for more details.

YC-400 4-Gang Box
Designed to flush-mount N-SP80V/S1 and N-SP80AS1 in a wall.

YC-831HSW-AM Weatherized Back Box w/Heater and Temper Switch for N-SP80V/S1 and N-SP80AS1

N-8000 IP Intercom System
A versatile, highly reliable IP Intercom system designed to meet user needs for flexible, cost-effective configuration and operation.
Overview

TDCA's unique N-8000 IP Intercom System is an integrated audio communication system that employs packet audio technology over the IP network to achieve fast, accurate communications with optimal quality and reliability. Applications range from conversation, paging broadcasting and BGM broadcasting to emergency paging and broadcasting, audio triggering and other security functions.

System scalability

The cost-effective N-8000 System can be configured to a scale that matches users’ specific requirements, however small or large. As few as two stations can be linked in a small system, or up to 192 components can be interconnected to operate as many as 3,072 stations.

Borderless communications

Since the N-8000 System is IP network compatible, it supports linkage between local areas and other locations worldwide. Centralized PC control for each station by TOA software enables connection of all exchanges, IP stations and interface units with LAN, WAN and optical fiber networks.

Integrated communications and safety features

Efficient centralized control integrates various systems to handle communications ranging from duplex conversations between stations to paging broadcasts, scheduled broadcasts and BGM broadcasting. The N-8000 System also provides master control for connection to users’ per-existing intercom, alarm, surveillance, door operation/door access authority and other systems as well as to telephone lines.

Basic Communication Features

- Handset or hands-free conversation
- Recall
- Redial
- Mic-Off
- Remote response
- Single-digit dial
- Call transfer

Full logging options

- Operation verification, voice communications and line supervision logs, all of which can be archived easily for instant recall.

System Specifications

- LAN Connections Max. 192 units (Total no. of Exchanges, Interface Units and IP stations)
- Station Connections Max. 3,072 stations (16 stations connected to each of 192 Exchanges)
- Voice Links Max. 768 links (4 links for each of 192 connected N-8000EX) Exchanges
- Paging Zones Max. 192 zones
- Paging Outputs Max. 368 outputs (2 outputs for each of 192 connected N-8000 Exchanges or Multi-Interface units)
- BGMs Max. 8 channels (number of channels selectable from a station)
- PBX Interface Max. 384 units (2 units for each of 192 connected Multi-Interface units)
- Tie-Line Interface Max. 384 units (2 units for each of 192 connected Multi-Interface units)
- External Contact Input Max. 132 units (when 192 Telephone Interface units are connected)
- Telephone Interface Max. 192 units (when 192 Telephone Interface units are connected) Externally Connected External Contact Output

Features & Functions

System Features

- System configuration by LAN with intuitive software
- Master-to-Master and Master-to-Sub station communication
- Choice of four wiring configurations: CAT5, 2-core shielded cables, 2 wires or 4 wires
- Integration with access control, voice alarm, CCTV and other such systems
- Time correction
- Operation and stream logs
- System diagnosis

Applications

- Hotel
- School
- Office
- Hospital
- Station
- Factory
- Airport
- Shopping mall
- Office Building
- Factory

Full logging options

- Operation verification, voice communications and line supervision logs, all of which can be archived easily for instant recall.

Permits the creation of a wide variety of system configurations through the free combination of individual interface units

- PBX Connection
- Tie-line connection
- External equipment control
- Remote door control
- External input broadcast
- Paging interlock control output control
- Call station indicator
- Remote dial
- Contact bridge

A variety of convenient functions

- Voice calling
- Hands-free conversation
- One-touch dialing
- Automatic call forwarding
- Emergency call abortion
- Emergency call forwarding
- All-ear message broadcasts
- Three-party conference
- Emergency paging

- Office line connection
- BGM
- Paging
- Conversation recording
- CCTV interlock
- Direct select
- System diagnosis
- Time correction
- Time signal

- N-8000MI Max. 1,576 (16 outputs for each of 192 connected Multi-Interface units)
- N-8000DI Max. 6,144 (32 outputs for each of 192 connected Direct Select units)
- N-8000AF Max. 1,576 (8 outputs for each of 192 connected Audio Interface units)

- External Contact Input
- N-8000MI Max. 1,576 (16 inputs for each of 192 connected Multi-Interface units)
- N-8000DI Max. 6,144 (32 inputs for each of 192 connected Direct Select units)
- N-8000AF Max. 1,576 (8 inputs for each of 192 connected Audio Interface units)

- Audio Delay Time 80 ms/320 ms, changeable

- Connections

Max. 1 second [when 191 multicast paging destinations are set]

Bandwidth Used

Max. 1.08 Mbps (one-way) unicast paging to 16 locations
Max. 130 Kbps (two-way)/per call
N-8000 System Overview

Overview of the N-8000 Series IP Intercom System

Applications

Key Functions

Software

Station Selection

Product Specs

System Specifications on page #3.

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LAN WAN

4-Wire Connection

Direct Network Connection

2-Wire Connection

2-Core Shielded Wire Connection

System Specifications on page #3.

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N-8000 System Overview

Overview

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N-8000 Series IP Intercom System

20

System Specifications on page #3.
Application Examples

TOA has your school’s security locked down!

School 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. The time signal function allows schools to manage the schedule of their bells (end and start) for class changes, breaks. The N-8000AF also allows control of an external/optional digital recorder, such as TOA’s EV-20R, to play pre-recorded (into EV-20R) special tones or selected melody, on schedule.
Application Examples

Bank

- Recoding target station
- Monitoring center 7:00-24:00
  - Forward busy
  - N-8640DS
- Security office
  - Control center 24:00-7:00
  - Night busy transfer
  - N-8000MS

- PC equipped with the N-8000 Recording Software

Factory

- Administration office
- CCTV Monitor
- N-8000EX
- N-8050DS
- N-8040DS
- N-8030M
- Pilot Panel
- Entrance

- Laboratory
- N-8000EX
- N-8031MS
- N-8020MS
- N-8000MS
- Foot Control Switch
- Speaker

- Production floor
- CCTV
- N-8000EX
- Amp
- Speaker

- LAN
- N-8000DI
- N-8000EX
- N-8000MI
- N-8000MS
- N-8050DS
- N-8020MS
- N-8000MS
- N-8031MS
- N-8020MS
- N-8000MS
- N-8050DI

- Bank
  - ATM
  - Speaker
  - N-8640DS
  - N-8020MS
  - N-8000MS

- Factory
  - Administration office
  - CCTV Monitor
  - N-8000EX
  - N-8050DS
  - N-8040DS
  - N-8030M
  - Pilot Panel
  - Entrance

- Laboratory
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  - N-8031MS
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  - N-8000MS
  - Foot Control Switch
  - Speaker

- Production floor
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  - N-8000MS
  - N-8050DS
  - N-8020MS
  - N-8000MS
  - N-8031MS
  - N-8020MS
  - N-8000MS
  - N-8050DI
Application Examples

Parking garage

Parking garage

Application Examples

Parking garage

Parking area

Secretary’s office

CCTV

HUB

CCTV

RS-480

Parking garage

RS-480

Parking garage

N-8400RS

N-8640DS

N-8000AF

N-8000DI

N-8000CO

N-8600MS

Telephone

Recorder

Router

HUB

PC for monitoring

Security company

LAN
Application Examples

Hospital

Operation Room -1

Operation Room -20

Foot Control Switch (3 stations)

N-8000EX

N-8000EX

N-8000EX

N-8033MS

N-8033MS

N-8033MS

Foot Control Switch (1 station)

Control room

Employee exit

Door Station N-8000EX

Electric Lock, for unlocking, etc.

Indication Board LED

Pilot Lamp

We supply sound, not equipment.

Building security, door access, emergency paging, communications, via IP Intercom.
Application Examples

Large-scale communication & Paging system at Airport

Integration of N-8000 with SX-2000 Audio Management System strengthens system capabilities.
A large system with up to 2048 zones is realized on the IP Network.
From a remote location, IP Station* can make a paging call to any selected zone(s).

*N-8610RM and N-8600MS.

Terminal 1
SX-2000 series PA/VA system
Paging
2-way communication
LAN
N-8600MS
N-8610RM

Terminal 2
SX-2000 series PA/VA system
Paging
2-way communication
LAN
N-8600MS
N-8610RM

Max zones
2048

Large-scale communication & Paging system at Airport

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From a remote location, IP Station* can make a paging call to any selected zone(s).

*N-8610RM and N-8600MS.
Key Functions

**Paging Function** Allows the master station as well as external input equipment to initiate paging by PA equipment or the speakers of individual stations. Operators can use the setup software to configure up to 192 paging zones to which paging calls can be made as desired.

**Remote Control of External System** Makes it possible to execute door lock control easily through a contact output when the master station is engaged in ongoing conversation with the N-8640DS or N-8050DS Door Station.

**Privacy Mode** Activated by a control on the RS-140 Switch Panel, blocks paging calls to connected speakers and prevents scan monitoring except for emergency calls.

**Direct Select** configures an operation panel equipped with indicator lamps and control buttons for the master station. Compatible with other stations, the panel assigns the various contact input and output channels to the master station and substations for purposes of identifying which substation is calling the programmed master station.
**Key Functions**

**Scan Monitor** enables remote security monitoring by allowing the master station as well as analog telephones and external telephones to audio monitor two or more pre-programmed stations.

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

**Sound Source**
- CD player
- MP3 player
- MD player

**Audio Trigger** Sets off an alarm if audio input to a pre-programmed station’s microphone fulfills pre-set conditions (detection time or signal level). Examples include calls to the designated master station or contact output generated by another interface unit.

**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.
**Key Functions**

**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.
System Software

Setting Software
The network settings and the detection of the equipment connected to the local network can be set. The paging system settings, advanced settings of functions for each individual equipment, and settings for the whole system can also be adjusted.

[Minimum System Requirements]
OS: Windows® XP Professional SP2 or later/
Vista Business/7 Professional
CPU: Pentium® 4 2 GHz or faster
Memory: 1 GB or more
Required component: Microsoft® .NET Framework 3.5 SP1 or later, and Microsoft® SQL Server 2005 Express Edition

Recording Software
Telephone calls, paging, and 3-Party Conference on the N-8000 system and recording of the voice during the Scan Monitor can be managed as a wav format. After selecting the recording subjected equipment, recording related settings can be adjusted. It is possible to easily search the recorded audio files and also to export the audio files to an external storage.

[Minimum System Requirements]
OS: Windows® 7 Professional SP1 (32/64bit)
Screen resolution: Over 1024 × 768 pixels
[Recommended Specifications]
OS: Windows® Vista Business/7 Professional
CPU: Pentium® 4, 2 GHz or faster
Memory: 2 GB or more
Screen resolution: Over 1024 × 768 pixels

Maintenance Software
This software displays the equipment name, station number, station name, etc. of individual equipment components within the system in the form of an at-a-glance list. System check function is used to confirm equipment firmware version, detect firmware, check connections between a PC and equipment components and between components, download various equipment log and setting files, and perform equipment clock settings. Although the above functions can be done on the browser, use of the N-8000 Maintenance Software permits such functions to be performed simultaneously for multiple components. Moreover, it displays the operation status of individual components in real time. Equipment operation logs can also be automatically saved to a designated file on the PC.

[Minimum System Requirements]
OS: Windows® XP SP2 or later
Required component: Microsoft® .NET Framework 3.5 SP1 or later
Screen resolution: Over 800 × 600 pixels
[Recommended Specifications]
OS: Windows® Vista Business/7 Professional
CPU: Pentium® 4, 2 GHz or faster
Memory: 2 GB or more
Screen resolution: Over 1024 × 768 pixels

SDK
TOA Canada is now offering software developers a software development tool for the N-8000 Intercom in the form of an SDK. With the SDK, a software developer will be able to create and/or interface the N-8000 platform into existing or newly developed software. Also supplied with the SDK will be an SDK application example, SDK user manual and the N-8000 protocol.

Please contact TOA Canada to obtain the SDK and support files.

technicalsupport@toacanada.com or 1-800-263-7639.

*Microsoft, Windows XP, Windows Vista, Windows 7 and .NET Framework are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
*Intel, Pentium and Intel Core are either trademarks of Intel Corporation in the United States and/or other countries.
*By use of different software, it is possible to configure for a large amount of telephone calls. For more information, please contact your nearest dealer.

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38
39
Software Application to Control N-8000AF Scheduler

TOA Canada will soon release a software application to control the N-8000AF Audio Interface Unit. This software gives access to the schedule and bell configuration portion of the existing N-8000 scheduling software. With this software multiple users can be granted access to make changes to the schedule.

System Software

SIP Gateway

The N-8000SG Q SIP Gateway allows you to connect the N-8000 intercom system to a SIP phone system. Communication can be established from the N-8000 to the SIP phone system and vice versa. This also allows up to 5 conversations at one time with the ability to initiate a page and access the door remote control features.

- Call and transfer from N-8000 to SIP, and vice versa
- Audio conversion from N-8000 to SIP and vice versa
- N-8000 uses G.722, fs=16kHz/8kHz, 16bit; SIP uses G.711 u-law
- 5 speech paths at the same time
- 5 conversations with SIP and N-8000 at the same time
- 5 paging zones from SIP telephone at the same time
- e.g., 2 conversations and 3 paging zones in total at the same time

Additional functions from SIP system
- Paging function from SIP telephone to N-8000 system
- "Door remote control" from SIP telephone to N-8050DS, N-8640/50DS

[Minimum System Requirements]
OS: Windows® 7 Professional (32/64bit)
License: “USB Dongle” required

TOA Partners with Genecel Security Center

Add an Event

Main Page - Top Section

Login Screen

Main Page - Bottom Section

Applications

Key Functions

Software

Station Selection

Product Specs

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# Station Selection Chart

<table>
<thead>
<tr>
<th>Desk-top</th>
<th>Wall-mount</th>
<th>Applicable Exchanges/Interfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Master Door Stations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-8000MS</td>
<td>N-8000WS</td>
<td>N-8640DS</td>
</tr>
<tr>
<td>N-8020WS</td>
<td>N-8011MS</td>
<td>N-8650DS</td>
</tr>
<tr>
<td>N-8010MS</td>
<td>N-8001MS</td>
<td>N-8600MS</td>
</tr>
<tr>
<td><strong>2-Wire Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-8000MS</td>
<td>N-8003WS</td>
<td>N-8006EX</td>
</tr>
<tr>
<td>N-8020WS</td>
<td>N-8011MS</td>
<td>N-8000EX</td>
</tr>
<tr>
<td>N-8010MS</td>
<td>N-8003MS</td>
<td>N-8003EX</td>
</tr>
</tbody>
</table>

### Optional Bracket
- WB-200RM
- WB-380

### Desk-top
- N-8000EX
- N-8001EX
- N-8003EX
- N-8010EX
- N-8011EX
- N-8020EX

### Wall-mount
- N-8640DS
- N-8650DS
- N-8600MS

### Applicable Exchanges/Interfaces
- N-8000EX
- N-8001EX
- N-8003EX
- N-8010EX
- N-8011EX
- N-8020EX

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The chart continues on the next page.
Specifications

IP Base Station

N-8600MS: IP Multi-functional Master Station

- System Allows Full-duplex conversation in Hands-free mode with new stations
- External mic and headset connections for hands-free operation
- LCD, speed-dial, Power-over-Ethernet

N-8510MS: IP Standard Master Station

- Employs packet audio technology
- Connect to a LAN or WAN network
- Power can supplied to the microphone using a PoE-compatible switching hub

N-8610RM: IP Remote Microphone Station

- Employs packet audio technology
- Connect to a LAN or WAN network
- Power can supplied to the microphone using a PoE-compatible switching hub

Product Specs

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8600MS</th>
<th>N-8510MS</th>
<th>N-8610RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>Power supply device that complies with IEEE802.3af standard or 12V DC (supplied from the AC adapter (option))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Use of the AC adapter (12 V DC): 2.5 W (station only) Use of the PoE (48 V DC): 3W</td>
<td>4.2 W (at rated), 6W (max.)</td>
<td>Use of the AC adapter (12 V DC): 4W (microphone only), 8.5W (when connecting 4 RM-210 Extension units) Use of the PoE (48 V DC): 5.2W (microphone only), 7.5W (when connecting 4 RM-210 Extension units)</td>
</tr>
<tr>
<td>Speech Method</td>
<td>Hands-free or handset conversation</td>
<td>Hands-Free or handset conversation (Use of goose-neck microphone)</td>
<td></td>
</tr>
<tr>
<td>Audio Frequency Range</td>
<td>300 Hz - 7 kHz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

External Speaker Terminal

- Maximum output 0.5W; 8Ω, screwless connector (2P)
- No-voltage contact input, open voltage: 5V DC, short-circuit current: 5mA or less, screwless connector (2 pins)

No. of Connectable Expansion

- Max. 4 units (max. 2 units at PoE power supply)

Network I/F

- 10BASE-T/100BASE-TX (Automatic-Negotiation)

Network Protocol

- TCP/IP, UDP, ARP, ICMP, TFTP, RTP, IGMP

Audio Packet Transmission System

- Unicast, Multicast

Voice Packet Loss Recovery

- Silence insertion

Audio Delay Time

- 80 ms, 320 ms (controllable by the software)

Finish

- Body, handset: ABS resin, gray
- ABS resin, blueish-gray

Dimensions

- 148 (W) x 208 (H) x 70.5 (D) mm (5.8” x 8.2” x 2.8”) (excluding a curl cord section)
- 190 (W) x 76.5 (H) x 215 (D) mm (7.5” x 3” x 8.5”) (excluding microphone)

Weight

- 770 g (1.7 lb)
- 649 g (1.4 lb)
- 703 g (1.5 lb)

Accessories

- CD (for PC setting, maintenance use) x 1
- CD (for PC setting, maintenance use, emergency message creating software) x 1
- CD (for PC setting, maintenance use) x 5

Option

- Wall mounting bracket: YC-280, AC adapter: AD-1215P

Remote Microphone extension: RM-210, AC adapter: AD-1215P

Network Section

- Optional accessories on page #52.
Specifications

IP Base Station

N-8640DS: IP Door Station
Q-N8640DS: IP Door Station Weather-resistant

- Chemical resistant for use in industrial/harsh environments.
- 4 contact outputs / one input for use with access control systems and remote dialers.
- External speaker connection 0.5W @ 8 ohms.
- Allows Full-duplex conversation with master stations.
- Q.N8640DS has a rubber boot covering the call button

N-8650DS: IP Indoor Station

- Indoor use IP door station employing packet audio technology
- Connected to an IP network (LAN or WAN) permits hands-free conversation
- Equipped with 1 channel of control input, 5 channels of control outputs (including 1 channel of relay control output), and 1 speaker output

N-8640SB: IP Door Station Board Unit

- Chemical resistant for use in industrial/harsh environments.
- 4 contact outputs / one input for use with access control systems and remote dialers.
- External speaker connection 0.5W @ 8 ohms.
- Allows Full-duplex conversation with master stations.

N-8640DS:

Q-N8640DS:

N-8650DS:

N-8640SB:

Model N-8640DS Q-N8640DS N-8650DS N-8640SB

Power Source
Power supply device that complies with IEE802.3af standard or 12V DC (supplied from the AC adapter (option))

Power Consumption
Use of the AC adapter [12 V DC]: 3.5 W (station only), Use of the PoE (48 V DC): 5W

Speech Method
Hands-free conversation

Audio Frequency Range
300 Hz - 7 kHz

Control Input
1 channel, no-voltage make contact input, open circuit voltage: 5 V DC, short circuit current: 10 mA or less, unterminated ends

Control Output
Open-collector output, 4 channels, withstand voltage: 30 V DC, control current: Max. 50 mA (4 output (2DENMAN)), unterminated ends

Relay control output, 1 channel, withstand voltage: 30 V DC, control current: Max. 500 mA, unterminated ends

External Speaker Terminal
Maximum output 0.5 W, 8 Ohm, unterminated ends

Network (IP)
10BASE-T/100BASE-TX (Automatic-Negotiation)

Network Protocol
TCP/IP, UDP, ARP, ICMP, TFTP, RTSP, IGMP

Audio Packet Transmission System
Unicast, Multicast

Voice Packet Loss Recovery
Silence insertion

Audio Delay Time
80 ms, 320 ms (controllable by the software)

Dust/Water Protection
IP65 (note that panel edges must be sealed at installation)

Finish
Plate: Stainless steel, hairline, Call button: Metal

Dimensions
115 (W) x 162 (H) x 58.5 (D) mm (4.5" x 6.4" x 2.3")
127 (W) x 162 (H) x 60 (D) mm (4.6" x 6.4" x 2.4")
79 (W) x 134 (H) x 53 (D) mm (3.1" x 5.3" x 2.1")

Weight
780 g (1.7 lb)
400 g (0.8 lb)
350 g (0.8 lb)

Accessory
Box mounting screw (No.6-32UNC x 20) x 4, Box mounting screw (MA x 20) x 4, Waterproof washer x 4, LAN coupler x 1

Option
AC adapter: AD-1215P, Box: Wall-mount wall-mount box YS-13A, Flush Mount: 3-gang electrical box or Back box YC-250

Optional accessories on page #52.
Specifications

2-Wire Type Station

N-8000MS: Multi-functional Master Station
- Full-Duplex (aka: Duplex) communication is supported by this station
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Handset or hands-free duplex communication

N-8010MS: Standard Master Station
- Full-Duplex (aka: Duplex) communication is supported by this station
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Handset or hands-free duplex communication

N-8011MS: Standard Hands-Free Master Station
- Full-Duplex (aka: Duplex) communication is supported by this station (handset mode only)
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Hands-free duplex communication

N-8020MS: Industrial-use Master Station
- Full-Duplex (aka: Duplex) communication is supported by this station
- Heavy duty dust proof and waterproof construction (IP54 rating)
- External speaker terminal (0.6 W / 8 ohms)

Product Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8000MS</th>
<th>N-8010MS</th>
<th>N-8011MS</th>
<th>N-8020MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>48V DC (supplied from the IP network intercom exchange (option))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>1.8 W (at rated), 2.4W (max.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wiring Method</td>
<td>1 set of twisted pair cable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech Method</td>
<td>Hands-free or handset conversation</td>
<td>Hands-free conversation</td>
<td>Hands-free or handset conversation</td>
<td></td>
</tr>
<tr>
<td>Audio Frequency Range</td>
<td>300 Hz – 7 kHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission Range</td>
<td>Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dial-in Contact Output</td>
<td>Open collector output (polarized), Withstand voltage: Max. 30V DC, Control current: Max. 50 mA, screwless connector (2P)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Speaker Terminal</td>
<td>0.6W, BG, screwless connector (2P)</td>
<td></td>
<td>0.6W, BG, screwless connector (2P)</td>
<td></td>
</tr>
<tr>
<td>Dust/Water Protection</td>
<td>IP4X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>148 (W) x 208 (H) x 70.5 (D) mm (5.2” x 8.2” x 2.8”) (excluding a curl cord section)</td>
<td>92 (W) x 195 (H) x 56.1 (D) mm (3.6” x 7.7” x 2.2”)</td>
<td>170 (W) x 220 (H) x 97.8 (D) mm (6.7” x 8.7” x 3.9”) (excluding a curl cord section)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>800 g (1.8 lbs)</td>
<td>700 g (1.5 lbs)</td>
<td>400 g (0.9 lbs)</td>
<td>1 kg (2.2 lbs)</td>
</tr>
<tr>
<td>Accessory</td>
<td>Connection cord (3m (9.84 ft)) x 1</td>
<td>Rubber cap x 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option</td>
<td>Wall mounting bracket: YC-280</td>
<td>Wall mounting bracket: YC-290</td>
<td>Wall mounting bracket: YC-280</td>
<td></td>
</tr>
</tbody>
</table>

* Optional accessories on page #52.
Specifications

2-Wire Type Station

N-8033MS: Flush Mount Master Station
- Especially for hospitals
- IP-65 rated outdoor in-wall Master Station
- Chemical resistant for use in industrial/harsh environments.
- One input for use with foot switch dialing.

N-8031MS: Flush-Mount Hands-Free Master Station
- Full Duplex (aka: Duplex) communication is supported by this station (handset mode only)
- 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

N-8031SB: Hands-Free Master Station Board Unit
- Full-Duplex (aka: Duplex) communication is supported by this station
- N-8031 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

Option Back Box: YC-841

Option Back Box: YC-241

N-8033MS
- Power Source: 48V DC (supplied from the IP network intercom exchange (option))
- Power Consumption: 1.8 W (at rated), 2.4 W (max.)
- Wiring Method: 1 set of twisted pair cable
- Speech Method: Hands-free conversation
- Audio Frequency Range: 300 Hz – 7 kHz
- Transmission Range: Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)
- External Dial Input: No-voltage make contact input, open voltage: 5 V DC, short-circuit current: 1 mA, screwless connector (5 p)
- Dust/Water Protection: IP55*
- Resistance to Environment: Chemical Resistant
- Dimensions: 115 (W) x 254 (H) x 51 (D) mm (4.5” x 10” x 2.1”)
- Weight: 850 g (1.9 lbs)
- Accessory: Box mounting screw (M4 x 35) x 6, Acoustic absorber x 1, Removable terminal plug (2P, preinstalled on the unit) x 1

N-8031MS
- Power Source: 48V DC (supplied from the IP network intercom exchange (option))
- Power Consumption: 1.8 W (at rated), 2.4 W (max.)
- Wiring Method: 1 set of twisted pair cable
- Speech Method: Hands-free conversation (Handset conversation can be established in conjunction with the RS-191 (option))
- Audio Frequency Range: 300 Hz – 7 kHz
- Transmission Range: Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)
- External Dial Input: No-voltage make contact input, open voltage: 5 V DC, short-circuit current: 1 mA, screwless connector (5 p)
- Dust/Water Protection: IP55*
- Resistance to Environment: Chemical Resistant
- Dimensions: 115 (W) x 254 (H) x 51 (D) mm (4.5” x 10” x 2.1”)
- Weight: 850 g (1.9 lbs)
- Accessory: Box mounting screw (M4 x 35) x 6, Acoustic absorber x 1, Removable terminal plug (2P, preinstalled on the unit) x 1, Handset jumper (8P, preinstalled on the unit) x 1, Ferrite clamp x 1, Hands-free speaker (with connection cord) x 1, Hands-free microphone (with connection cord) x 1

N-8031SB
- Power Source: 48V DC (supplied from the IP network intercom exchange (option))
- Power Consumption: 1.8 W (at rated), 2.4 W (max.)
- Wiring Method: 1 set of twisted pair cable
- Speech Method: Hands-free conversation
- Audio Frequency Range: 300 Hz – 7 kHz
- Transmission Range: Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)
- External Dial Input: No-voltage make contact input, open voltage: 5 V DC, short-circuit current: 1 mA, screwless connector (5 p)
- Dust/Water Protection: IP55*
- Resistance to Environment: Chemical Resistant
- Dimensions: 115 (W) x 254 (H) x 51 (D) mm (4.5” x 10” x 2.1”)
- Weight: 850 g (1.9 lbs)
- Accessory: Box mounting screw (M4 x 35) x 6, Acoustic absorber x 1, Removable terminal plug (2P, preinstalled on the unit) x 1, Handset jumper (8P, preinstalled on the unit) x 1, Ferrite clamp x 1, Hands-free speaker (with connection cord) x 1, Hands-free microphone (with connection cord) x 1

*Note that panel edges must be sealed at installation

Optional accessories on page #52.

Overview
Applications
Key Functions
Software
Station Selection
Product Specs

www.toaelectronics.com • 1-800-733-7088
### Specifications

#### 2-Wire Type Station

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8050DS</th>
<th>Q-N8050WPB-51800**</th>
<th>N-8050SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>48V DC (supplied from the IP network intercom exchange (option))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>1.8 W (at rated); 2.4 W (max.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wiring Method</td>
<td>1 set of twisted pair cable</td>
<td>Non-polar 1 pair stranded wire system</td>
<td></td>
</tr>
<tr>
<td>Speech Method</td>
<td>Hands-free conversation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio Frequency Range</td>
<td>300 Hz - 7 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission Range</td>
<td>Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Output</td>
<td>Open collector output, withstand voltage: Max. 30V DC, Control current: Max. 50 mA, one shot can be set from 1 to 9 s, screw terminal (polarized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust/Water Protection</td>
<td>IP54*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Protection</td>
<td>BS EN62262: 2002 IP22 equivalent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistance to Environment</td>
<td>Passed our gas corrosion test and neutral salt spray test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish</td>
<td>Plate: Stainless steel, hairline, Call button: Metal; Circuit board: Silicone sealing agent-coated board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>115 (W) x 162 (H) x 54 (D) mm (4.5&quot; x 6.4&quot; x 2.1&quot;)</td>
<td>67 (W) x 128.3 (H) x 26 (D) mm (2.6&quot; x 5&quot; x 1&quot;)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>680 g (1.5 lbs)</td>
<td>100 g (0.2 lbs) (incl. accessories)</td>
<td></td>
</tr>
<tr>
<td>Accessory</td>
<td>Box mounting screw (No.6-32UNC x 18) x 4, Box mounting screw (M4 x 25) x 4, Acoustic absorbent (made of felt) x 1</td>
<td>Box mounting screw (No.6-32UNC x 18) x 4, Box mounting screw (M4 x 25) x 4, Hands-free speaker (with connection cord) x 1, Hands-free microphone (with connection cord) x 1</td>
<td></td>
</tr>
<tr>
<td>Option</td>
<td>Flush mount: 3-gang electrical box or Back Box: YE-150; Wall mount: Wall-inset box: VS-13A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note that panel edges must be sealed at installation.

#### N-8050DS: Door Station

- Full-Duplex (aka: Duplex) communication is supported by this station
- Hands-free duplex communication
- Separate mic and speaker
- Control output (open collector)
- IP 54 rated
- Q-NB850WPBS1800 has a rubber boot covering the call button

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

- Full-Duplex (aka: Duplex) communication is supported by this station
- N-8050DS PCB for custom station applications
- Speaker and microphone included
- Control output (open collector)
- Call switch input
- LED Status Indicator output

#### RS-191: Optional Handset
## Specifications

### IP Network Exchange

<table>
<thead>
<tr>
<th>N-8000EX: IP Network Intercom Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 10/100BaseTX Ethernet network connection</td>
</tr>
<tr>
<td>• Occupies one network node (192 max.)</td>
</tr>
<tr>
<td>• Sixteen (16) station capacity</td>
</tr>
<tr>
<td>• Speech links: 4 internal / 8 external</td>
</tr>
<tr>
<td>• Two (2) audio paging outputs (0 dBV)</td>
</tr>
<tr>
<td>• Two (2) relay outputs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N-8010EX: IP Network Intercom Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stations connect to exchange via two-wire twisted pair</td>
</tr>
<tr>
<td>• Provides 48 VDC to each station</td>
</tr>
<tr>
<td>• Speech links: 1 internal / 2 external</td>
</tr>
<tr>
<td>• 10/100BaseTX Ethernet network connection</td>
</tr>
<tr>
<td>• Occupies one network node (192 max.)</td>
</tr>
<tr>
<td>• Includes rack-mount and wall-mount brackets</td>
</tr>
</tbody>
</table>

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### N-8000EX

- Model: N-8000EX
- Power Source: 120V AC, 50/60Hz
- Power Consumption: 50W (at rated), 75W (max.)
- Speech Link: Internal: 4/External: 8
- Line Capacity: Up to 16 stations
- Wiring Method: 1 set of twisted pair cables
- Transmission Range: Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)
- Paging Output: Audio: 2 channels Max. (0dB*, 600Ω, balanced)
- Control: 2 channels, no-voltage make contact output (24V DC/0.5A)
- Connector: removable terminal block
- Finish: Pre-coated steel plate, black, 30% gloss
- Dimensions: 420 (W) x 44.3 (H) x 356 (D) mm (16.5” x 1.7” x 14”)
- Weight: 4.1 kg (9 lbs) 4.2 kg (9.3 lbs)
- Accessory: AC power cord (2m (6.56 ft)) x 1, CD (for PC setting, maintenance use) x 1, Removable terminal plug (4 pins) x 2, Mini-clamp plug (2 pins) x 20, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for rack mounting x 4, Wall mounting bracket x 2, Screw for mounting bracket x 8, Screw for wall mounting x 4

### N-8010EX

- Model: N-8010EX
- Power Source: 120V AC, 50/60Hz
- Power Consumption: 50W (at rated), 75W (max.)
- Speech Link: Internal: 4/External: 8
- Line Capacity: Up to 16 stations
- Wiring Method: 1 set of twisted pair cables
- Transmission Range: Max. 1500 m (ø0.65 mm, Loop resistance 170 Ω)
- Paging Output: Audio: 2 channels Max. (0dB*, 600Ω, balanced)
- Control: 2 channels, no-voltage make contact output (24V DC/0.5A)
- Connector: removable terminal block
- Finish: Pre-coated steel plate, black, 30% gloss
- Dimensions: 420 (W) x 44.3 (H) x 356 (D) mm (16.5” x 1.7” x 14”)
- Weight: 4.1 kg (9 lbs) 4.2 kg (9.3 lbs)
- Accessory: AC power cord (2m (6.56 ft)) x 1, CD (for PC setting, maintenance use) x 1, Removable terminal plug (4 pins) x 2, Mini-clamp plug (2 pins) x 20, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for rack mounting x 4, Wall mounting bracket x 2, Screw for mounting bracket x 8, Screw for wall mounting x 4

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For more information, please visit [www.toaelectronics.com](http://www.toaelectronics.com) or call 1-800-733-7088.
### Specifications

#### Interface Units

**N-8000AL: Telephone Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Single telephone line allowing an analog telephone to be connected.
- Allows any analog telephone to function as a master station.

**N-8000CO: C/O Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max. - at least one node must be a master station or N-8000/8010EX exchange)
- Analog central office line circuit allowing the stations to make and receive calls to and from the telephone line.

**SX-200IP: IP Interface Module**
- 10BASE-T/100BASE-TX (Automatic-Negotiation)
- Voice sampling frequency of 16 kHz, 8 kHz (controllable on the software); 48 kHz, sample rate is used for SX-2000 system only
- Voice encoding method: Sub-band ADPCM, Cryptosystem
- Voice Packet Loss Recovery - Silence insertion
- Allows for a page to be made from the N-8000 Series Stations (N-8600MS, N-8610RM only) to the SX-2000 Series.

#### Product Specs

**N-8000AL**
- **Model:** N-8000AL
- **Network I/F:** 10/100BaseTX (Automatic-Negotiation)
- **Network Protocol:** TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
- **Audio Packet Omission:** Silence insertion
- **Audio Delay Time:** 80 ms, 320 ms (Controllable by the software)
- **Finish:** Pre-coated steel plate, black, 30% gloss
- **Dimensions:** 35 (W) x 119.5 (H) x 117.4 (D) mm (1.38” x 4.7” x 7.02”)
- **Weight:** 150 g (0.33 lbs)

**N-8000CO**
- **Model:** N-8000CO
- **Power Source:** 120V AC, 50/60Hz
- **Power Consumption:** 8W (Max.)
- **Number of Lines:** 1 line
- **Network Protocol:** TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
- **Audio Packet Omission:** Silence insertion
- **Audio Delay Time:** 80 ms, 320 ms (Controllable by the software)
- **Finish:** Pre-coated steel plate, black, 30% gloss
- **Dimensions:** 420 (W) x 44.3 (H) x 356 (D) mm (16.5” x 1.7” x 14”)
- **Weight:** 4.3 kg (9 lbs) 4.2 kg (9.3 lbs)

#### Optional accessories on page #52.

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Optional accessories on page #52.
Specifications

Interface Units

**N-8000MI: Multi Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Contact Bridge
- Sixteen contact inputs
- Sixteen relay outputs
- Telephone Interface (E&M type), two channels

**N-8000DI: Direct Select Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- 32 contact inputs
- 32 contact outputs
- Events may be activated by contact closures or master station dialing commands.
- Provides control interface to CCTV, door access and other external systems.

**N-8000AF: Audio Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- One MIC/LINE audio line input
- One audio line output
- Eight contact inputs
- Time Synchronization input
- Built-in timer and chime

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**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8000MI</th>
<th>N-8000DI</th>
<th>N-8000AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>120V AC, 50/60Hz</td>
<td>120V AC, 50/60Hz</td>
<td>120V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>21W (30A) (Max.)</td>
<td>16W (Max.)</td>
<td>7W (Max.)</td>
</tr>
<tr>
<td>Audio Input</td>
<td>2 inputs (2P/input), Max. 0dB, under 300Ω, balanced, with a semi-fixed volume for adjustment (0 to -25dB);</td>
<td></td>
<td>1 input (transformer isolated), 0dB, under 300Ω, balanced, with a semi-fixed volume for adjustment (0 to -25dB);</td>
</tr>
<tr>
<td></td>
<td>16 inputs (16 inputs), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (8 pins)</td>
<td></td>
<td>16 inputs (16 inputs), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (8 pins)</td>
</tr>
<tr>
<td>Audio Output</td>
<td></td>
<td></td>
<td>1 output (transformer isolated), 0dB, under 300Ω, balanced, with a semi-fixed volume for adjustment (0 to -25dB);</td>
</tr>
<tr>
<td></td>
<td>2 outputs (2P/output), Max. 0dB, under 300Ω, balanced, Control: 2 outputs (2P/output), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (8 pins)</td>
<td></td>
<td>2 outputs (2P/output), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (8 pins)</td>
</tr>
<tr>
<td>Contact Input</td>
<td>32 inputs, no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (16 pins)</td>
<td></td>
<td>32 inputs, no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, Removable terminal block (16 pins)</td>
</tr>
<tr>
<td>Contact Output</td>
<td>32 outputs, relay contact output, contact capacity: 24V DC/0.5A, removable terminal block (16 pins)</td>
<td></td>
<td>32 outputs, relay contact output, contact capacity: 24V DC/0.5A, removable terminal block (16 pins)</td>
</tr>
<tr>
<td>Network I/F</td>
<td>10BASE-T/100BASE-TX (Automatic-Negotiation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network Protocol</td>
<td>TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio Packet Transmission System</td>
<td>Unicast, Multicast</td>
<td></td>
<td>Unicast, Multicast</td>
</tr>
<tr>
<td>Audio Packet Omission</td>
<td>Silence insertion</td>
<td></td>
<td>Silence insertion</td>
</tr>
<tr>
<td>Audio Delay Time</td>
<td>8ms, 22ms (Controlable by software)</td>
<td></td>
<td>8ms, 22ms (Controlable by software)</td>
</tr>
<tr>
<td>Finish</td>
<td>Pre-coated steel plate, black, 30% gloss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>420 (W) x 44.3 (H) x 239.5 (D) mm (16.5” x 1.7” x 9.4”)</td>
<td>420 (W) x 44.3 (H) x 267 (D) mm (16.5” x 1.7” x 10.5”)</td>
<td>210 (W) x 44.3 (H) x 267 (D) mm (8.3” x 1.7” x 10.5”)</td>
</tr>
<tr>
<td>Weight</td>
<td>2.8 kg (6.2 lbs)</td>
<td>1.7 kg (3.7 lbs)</td>
<td>1.65 kg (3.6 lbs)</td>
</tr>
<tr>
<td>Accessory</td>
<td>Power cord (1m (3.3 ft)), x 1, CD (for PC setting, maintenance) x 1, Mini-clamp plug (10 pins) x 1, Removable terminal plug (10 pins) x 2, Removable terminal plug (8 pins) x 2, Removable terminal plug (5 pins) x 2, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for rack mounting bracket x 4, Screw for rack mounting bracket x 4</td>
<td>Power cord (1m (3.3 ft)), x 1, CD (for PC setting, maintenance) x 1, Removable terminal plug (10 pins) x 2, Removable terminal plug (8 pins) x 2, Removable terminal plug (5 pins) x 2, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for rack mounting bracket x 4, Rack mounting bracket x 2, Screw for rack mounting bracket x 4</td>
<td>Power cord (1m (3.3 ft)), x 1, CD (for PC setting, maintenance) x 1, Removable terminal plug (10 pins) x 2, Removable terminal plug (8 pins) x 2, Removable terminal plug (5 pins) x 2, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for rack mounting bracket x 4, Rack mounting bracket x 2, Screw for rack mounting bracket x 4</td>
</tr>
</tbody>
</table>
| Option | Wall mounting bracket: YC-850 | Wall mounting bracket: MB-158-BS, MB-15B-J | Wall mounting bracket: IC-850

**Model**

**Product Specs**
### Specifications

#### 2-Core Shielded Cable Type

**N-8000RS: Sub-station Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using twisted pair shielded cable
- Speech links: 2

**N-8010RS: Substation Interface Unit**
- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using twisted pair shielded cable
- Speech links: 1

---

### Network Section

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8000RS</th>
<th>N-8010RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>120V AC, 50/60Hz</td>
<td>26 W (at rated), 32 W (Max.)</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>35 W (at rated), 45 W (Max.)</td>
<td></td>
</tr>
<tr>
<td>Number of Lines</td>
<td>16 lines</td>
<td>1 link</td>
</tr>
<tr>
<td>Number of Speech Links</td>
<td>2 links</td>
<td>1 link</td>
</tr>
<tr>
<td>Transmission Range</td>
<td>500 m [1640.41 ft]</td>
<td>1300 m [4265.2 ft]</td>
</tr>
<tr>
<td>Wiring Method</td>
<td>Two-core shielded cable</td>
<td></td>
</tr>
<tr>
<td>Network I/F</td>
<td>10BASE-T/100BASE-TX (Automatic-Negotiation)</td>
<td></td>
</tr>
<tr>
<td>Network Protocol</td>
<td>TCP/IP, UDP, ARP, ICMP, TFTP, RTP, IGMP</td>
<td></td>
</tr>
<tr>
<td>Audio Packet Transmission System</td>
<td>Unicast, Multicast</td>
<td></td>
</tr>
<tr>
<td>Voice Packet Loss Recovery</td>
<td>Silence insertion</td>
<td></td>
</tr>
<tr>
<td>Audio Delay Time</td>
<td>80 ms, 120 ms (controllable by the software)</td>
<td></td>
</tr>
<tr>
<td>Finish</td>
<td>Pre-coated steel plate, black, 30% gloss</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>420 (W) x 44.3 (H) x 325.5 (D) mm (16.54&quot; x 1.74&quot; x 12.81&quot;)</td>
<td>117.2 (W) x 162 (H) x 60 (D) mm (4.6&quot; x 6.4&quot; x 2.3&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.9 kg (8.6 lb)</td>
<td>400 g (0.8 lb)</td>
</tr>
<tr>
<td>Accessory</td>
<td>Power cord (2 m [6.56 ft]) x 1, CD (for PC setting, maintenance use) x 1, Removable terminal plug (3P) x 16, Plastic foot x 4, Screw for fitting plastic foot x 4, Rack mounting bracket x 2, Screw for mounting bracket x 2, Screw for rack mounting x 4</td>
<td></td>
</tr>
</tbody>
</table>

---

### Optional accessories on page 52.
Specifications

2-Core Shielded Cable Type

- RS-180: Sub-station (Emergency use)
  - Heavy-duty brushed stainless steel faceplate, #11 Gauge.
  - Vandal resistant call button and speaker plate.
  - Red call assurance LED for ADA-compliance.
  - Weather resistant conformal printed circuit board coating.

- RS-170: Sub-station (Outdoor vandal-resistant type)
  - Provides half-duplex communication.
  - Heavy-duty brushed stainless steel faceplate, #11 Gauge.
  - Vandal resistant call button and speaker plate.
  - Weather resistant conformal printed circuit board coating.

- RS-160: Sub-station (Indoor vandal-resistant type)
  - Provides half-duplex communication.
  - Heavy-duty brushed stainless steel faceplate, #11 Gauge.
  - Vandal resistant call button and speaker plate.
  - May be programmed to communicate with a single master station.

- RS-150: Sub-station (Indoor type)
  - Provides half-duplex communication.
  - Hairline brushed stainless steel faceplate, #14 Gauge.
  - Connects to N-8000RS/N-8010RS.
  - May be programmed to communicate with a single master station.

Q-RS180BZ: Sub-station (ASA-Compliant emergency outdoor type)

- ADA compliant with Braille labeling
- Large easy-access mushroom button
- Contact output for use with emergency lighting or access control systems
- Works with N-8000RS & N-8010RS exchanges using shielded twisted pair connection.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>RS-180</th>
<th>Q-RS180BZ</th>
<th>RS-170</th>
<th>RS-160</th>
<th>RS-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Impedance</td>
<td>625Ω</td>
<td>58.5Ω</td>
<td>765Ω</td>
<td>765Ω</td>
<td>765Ω</td>
</tr>
<tr>
<td>Internal Speaker</td>
<td>4 cm cone type</td>
<td>4 cm cone type</td>
<td>4 cm cone type</td>
<td>4 cm cone type</td>
<td>4 cm cone type</td>
</tr>
<tr>
<td>Control Output</td>
<td>Open collector output: 30 V DC, 30 mA (The open collector output is kept turned on till the conversation is finished after the call button was pressed.)</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Dimensions</td>
<td>120 (W) x 120 (H) x 58.5 (D) mm (4.72” x 4.72” x 2.3”)</td>
<td>155 (W) x 162 (H) x 66.8 (D) mm (6.13” x 6.38” x 2.63”)</td>
<td>120 (W) x 120 (H) x 57.5 (D) mm (4.72” x 4.72” x 2.26”)</td>
<td>120 (W) x 120 (H) x 48.5 (D) mm (4.72” x 4.72” x 1.91”)</td>
<td>--</td>
</tr>
<tr>
<td>Weight</td>
<td>570 g (1.26 lb)</td>
<td>700 g (1.54 lb)</td>
<td>540 g (1.19 lb)</td>
<td>410 g (0.90 lb)</td>
<td>--</td>
</tr>
<tr>
<td>Accessory</td>
<td>Box mounting screw (No.6-32UNC x 8) x 4, Box mounting screw (M4x25) x 4</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Option</td>
<td>For flush mount: 2 gang electrical box: YC-302 For surface mount: Indoor wall-mount box: YC-822 Outdoor wall-mount box: YC-833</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Specifications

2-Core Shielded Cable Type

**RS-144: IP Intercom Switch Panel**
- May be programmed for dual-priority call or call into two different master stations.
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used.

**RS-143: IP Intercom Switch Panel**
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used.

**RS-140: Switch Panel**
- Call button and privacy button with LED indicators.
- Supports two-way (half-duplex) communication.
- Prevents incoming calls, pages & scans by pushing the privacy switch.
- Private, handset conversation is available using the RS-141.
- Connects to N-8000RS/8010RS using twisted two-core, shielded cable.

**RS-142: IP Intercom Switch Board**
- Allows configuration with custom housing and switch.
- May be programmed for dual-priority call or call into two different master stations.
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used two-core, shielded cable.

**Specifications**

**Model** | **RS-144** | **RS-143** | **RS-140**
--- | --- | --- | ---
**Call Button** | Momentary (EMERGENCY, NORMAL) | Momentary | --
**Privacy Switch** | -- | Latching | --
**Wiring** | Two-core shielded cable | Two-core shielded cable | Two-core shielded cable
**Transmission Range** | 0.5 km (1640 yd)/0.5 mm (AWG24); 0.8 km (2874 yd)/0.65 mm (AWG22); 1.3 km (4211 yd)/0.9 mm (AWG19) | 0.5 km (1640 yd)/0.5 mm (AWG24); 0.8 km (2874 yd)/0.65 mm (AWG22); 1.3 km (4211 yd)/0.9 mm (AWG19) | 0.5 km (1640 yd)/0.5 mm (AWG24); 0.8 km (2874 yd)/0.65 mm (AWG22); 1.3 km (4211 yd)/0.9 mm (AWG19)
**Finish** | Plate: Stainless steel, hairline | Plate: Stainless steel, hairline | Plate: Stainless steel, hairline
Call button (emergency): resin, red | Call button (normal): resin, red | Call button: resin, red
Call button (normal): resin, white | Privacy button (normal): resin, white
**Dimensions** | 70.1 (W) x 115.1 (H) x 28.6 (D) mm (2.76” × 4.53” × 1.13”) | 70.1 (W) x 115.1 (H) x 28.6 (D) mm (2.76” × 4.53” × 1.13”) | 70.1 (W) x 115.1 (H) x 28.6 (D) mm (2.76” × 4.53” × 1.13”)
**Weight** | 80 g (0.18 lb) | 80 g (0.18 lb) | 80 g (0.18 lb)
**Accessories** | Mounting bracket x 1, bracket mounting screw (No.6-32 UNC x 18) x 2, Box mounting screw (M4 x 30) x 2, Box mounting screw (No.6-32 UNC x 30) x 2 | Optional Handset: RS-141 | Optional Handset: RS-141

**Model** | **RS-143**
---
**Call Switch** | Momentary (for 2 momentary switches)
**Wiring** | 4 cables (for 2 momentary switches)
**Transmission Range** | 0.5 km (1640 yd)/0.5 mm (AWG24); 0.8 km (2874 yd)/0.65 mm (AWG22); 1.3 km (4211 yd)/0.9 mm (AWG19)
**Weight** | 30 g (0.07 lb)
**Option** | Optional Handset: RS-141

**RS-141: Optional Handset**

Optional accessories on page #52.
Specifications

4-Wire Type

N-8400RS: Sub-station Interface Unit

- 10/100BaseTX Ethernet network connection
- Occupies one network node (100 m max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using 2 sets of twisted pair cables
- Speech links: Internal 1, External 2

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8400RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>120V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>35 W (at rated), 45 W (Max.)</td>
</tr>
<tr>
<td>Number of Lines</td>
<td>16 lines</td>
</tr>
<tr>
<td>Number of Speech Links</td>
<td>Internal 1, External 2</td>
</tr>
<tr>
<td>Transmission Range</td>
<td>1000 m (2093.6 yd)/ø0.5 mm (AWG24), 1500 m (3937 yd)/ø0.65 mm (AWG21), 2000 m (6562 yd)/ø0.9 mm (AWG19)</td>
</tr>
<tr>
<td>Wiring Method</td>
<td>2 sets of twisted pair cables</td>
</tr>
<tr>
<td>Network I/F</td>
<td>10/100BaseTX Ethernet network connection</td>
</tr>
<tr>
<td>Audio Packet Transmission System</td>
<td>Unicast, Multicast</td>
</tr>
<tr>
<td>Voice Packet Loss Recovery</td>
<td>Silence insertion</td>
</tr>
<tr>
<td>Audio Delay Time</td>
<td>80 ms, 320 ms (controllable by the software)</td>
</tr>
<tr>
<td>Finish</td>
<td>Pre-coated steel plate, black, 30% gloss</td>
</tr>
<tr>
<td>Dimensions</td>
<td>420 (W) x 44.3 (H) x 325.5 (D) mm (16.54&quot; x 1.74&quot; x 12.81&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>4 kg (8.8 lbs)</td>
</tr>
</tbody>
</table>

N-8410RS: Sub-station Interface Unit

- Occupies one network node (100 m max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using 2 sets of twisted pair cables
- Speech links: Internal 1, External 2

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8410RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>N-8410RS</td>
</tr>
<tr>
<td>Power Source</td>
<td>120V AC, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>35 W (at rated), 45 W (Max.)</td>
</tr>
<tr>
<td>Number of Lines</td>
<td>16 lines</td>
</tr>
<tr>
<td>Color of Speech Links</td>
<td>Internal 1, External 2</td>
</tr>
<tr>
<td>Transmission Range</td>
<td>1000 m (1093.6 yd)/ø0.5 mm (AWG24), 1500 m (3937 yd)/ø0.65 mm (AWG21), 2000 m (6562 yd)/ø0.9 mm (AWG19)</td>
</tr>
<tr>
<td>Wiring Method</td>
<td>2 sets of twisted pair cables</td>
</tr>
<tr>
<td>Network I/F</td>
<td>10/100BaseTX Ethernet network connection</td>
</tr>
<tr>
<td>Audio Packet Transmission System</td>
<td>Unicast, Multicast</td>
</tr>
<tr>
<td>Voice Packet Loss Recovery</td>
<td>Silence insertion</td>
</tr>
<tr>
<td>Audio Delay Time</td>
<td>80 ms, 320 ms (controllable by the software)</td>
</tr>
<tr>
<td>Finish</td>
<td>Pre-coated steel plate, black, 30% gloss</td>
</tr>
<tr>
<td>Dimensions</td>
<td>420 (W) x 44.3 (H) x 325.5 (D) mm (16.54&quot; x 1.74&quot; x 12.81&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>4 kg (8.8 lbs)</td>
</tr>
</tbody>
</table>

N-8410MS: Analog Standard Master Station

- Low-cost analog Master Station operates on 4-wire connection with N-8000RS
- Complete system can be configured on one exchange with RS-4xx substations

<table>
<thead>
<tr>
<th>Model</th>
<th>N-8410MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>24 V DC (supplied from the sub-station interface N-8000RS)</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>1.8 W (at rated), 2.4W (Max.)</td>
</tr>
<tr>
<td>Wiring Method</td>
<td>1 set of twisted pair cable</td>
</tr>
<tr>
<td>Speech Method</td>
<td>Hands-free or handset conversation</td>
</tr>
<tr>
<td>Audio Frequency Range</td>
<td>300 Hz – 7 kHz</td>
</tr>
<tr>
<td>Transmission Range</td>
<td>1 km (500 yd)/ø0.5 mm (AWG24), 1.5 km (500 yd)/ø0.65 mm (AWG21), 2 km (2187 yd)/ø0.9 mm (AWG19)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>148 (W) x 120 (H) x 50.5 (D) mm (4.69&quot; x 4.72&quot; x 2&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>720 g (1.59 lbs)</td>
</tr>
</tbody>
</table>

RS-480VSET: Sub-station (Video Intercom)

- Colour video camera
- Indoor and outdoor use
- Includes 1 of each: RS-480V + IF-480V

<table>
<thead>
<tr>
<th>Model</th>
<th>RS-480VSET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>Supplied from IF-480V</td>
</tr>
<tr>
<td>Call Button</td>
<td>Momentary (emergency call: Push twice within 400 ms)</td>
</tr>
<tr>
<td>Rated Input</td>
<td>1W</td>
</tr>
<tr>
<td>Internal Speaker</td>
<td>Cone-type</td>
</tr>
<tr>
<td>Internal Microphone</td>
<td>Electret condenser type</td>
</tr>
<tr>
<td>Wiring</td>
<td>CAT5 cable, RJ45 female connector attached</td>
</tr>
<tr>
<td>Control Output</td>
<td>3.00V (AWG24)</td>
</tr>
<tr>
<td>Accessories</td>
<td>Panel: Stainless steel, hairline call button: Metal, silver</td>
</tr>
<tr>
<td>Dimensions</td>
<td>120(W)x120(H)x50.5(D) mm (4.72”x4.72”x2”)</td>
</tr>
<tr>
<td>Weight</td>
<td>605 g (1.3 lbs)</td>
</tr>
<tr>
<td>Accessories</td>
<td>Connection cord (10 ft) x 4, Machine screw (M4 x 25) x 4</td>
</tr>
<tr>
<td>Options</td>
<td>2-gang electrical box: YC-302</td>
</tr>
</tbody>
</table>

RS-480VSET: IP [IF-480V]

- Power Source: Supplied AC-adapter must be used
- Indicator: Power LED (green), Lock LED (blue), Colour LED (orange)
- Connections: 45 (to RS-480V), Removable terminal block 4P (to N-8000RS), 8M (input out) x 2

<table>
<thead>
<tr>
<th>Model</th>
<th>RS-480VSET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source</td>
<td>Supplied AC-adapter must be used</td>
</tr>
<tr>
<td>Indicator</td>
<td>Power LED (green), Lock LED (blue), Colour LED (orange)</td>
</tr>
<tr>
<td>Connections</td>
<td>45 (to RS-480V), Removable terminal block 4P (to N-8000RS), 8M (input out) x 2</td>
</tr>
<tr>
<td>Dimensions</td>
<td>105(W)x33(H)x127(D) mm (4.13&quot;x1.3&quot;x5&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>285 g (0.6 lbs)</td>
</tr>
<tr>
<td>Accessories</td>
<td>AC adapter</td>
</tr>
<tr>
<td>Options</td>
<td>Rack mount plate: MB-480V4 (up to four IF-480Vs are mountable in 1 unit)</td>
</tr>
</tbody>
</table>

MB-480V4: Optional IF-480V Rack Mounting Panel

- Up to 4 IF-480V are mountable in 1 rack unit.
Specifications

4-Wire Type
- RS-480: Sub-station (Emergency use)
  - Provides half-duplex communication.
  - Dust proof 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.

- RS-470: Sub-station (Outdoor vandal-resistant type)
  - Provides half-duplex communication.
  - Dust proof 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 twisted pair cable.

- RS-460: Sub-station (Indoor vandal-resistant type)
  - Provides half-duplex communication.
  - Dust proof and waterproof construction (IP54 rating).
  - Heavy-duty brushed stainless steel faceplate.
  - Vandal resistant call button and speaker plate.
  - Built-in electret condenser microphone.
  - Connects to N-8400RS using two twisted pair cable.

- RS-450: Sub-station (Indoor type)
  - Provides half-duplex communication.
  - Hairline brushed stainless steel faceplate.
  - Vandal resistant call button.
  - Connects to N-8400RS using two twisted pair cable.

- RS-442: IP Intercom Switch Board
  - Allows configuration with custom housing and switch.
  - May be programmed for dual priority call or call into two different master stations.
  - Switch board to make custom sub-station interface.
  - Allows for three call in switches.
  - Connects to N-8400RS Sub-station interface unit via twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
  - Optional RS-481 handset may also be used.

- RS-481: Optional Handset
  - Two-way, half-duplex communication using any 25V wall/stalling speaker.
  - Prevents incoming calls by pushing a privacy switch.

Model | RS-480 | RS-470 | RS-460 | RS-450 | RS-442
--- | --- | --- | --- | --- | ---
Call Button | Momentary (Emergency call: Press twice within 400 ms) | | | | Call Button Wiring: 5 cables (for 5 momentary switches)
Rated Input | 1W | | | | |
Internal Speaker | Cone-type | | | | —
Internal Microphone | Electret condenser type | | | | —
Wiring | Twisted pair cables (2 pairs) | | | | —
Transmission Range | 1 km (1093 yd)/ø0.5 mm (AWG24); 1.5 km (3640 yd)/ø0.65 mm (AWG22); 2 km (2187 yd)/ø0.9 mm (AWG19) | | | | —
Control Output | Open collector, Maximum controlled voltage: 30 V DC; Control current: 30 mA | Open collector, Maximum controlled voltage: 30 V DC; Control current: 30 mA |
Dust/Water Protection | IP54 | | | | —
Dimensions | 120(W) x 120(H) x 50.5(D)mm | 120(W) x 120(H) x 49.5(D)mm | 120(W) x 120(H) x 41.5(D)mm | 120(W) x 120(H) x 41.5(D)mm | 120(W) x 120(H) x 41.5(D)mm
Weight | 575 g (1.27 lb) | 550 g (1.21 lb) | 540 g (1.19 lb) | 530 g (1.12 lb) | 140 g (0.31 lb)
Accessory | Box mounting screw (No.6-32UNC x 8) x 4, Box mounting screw (M4 x 25) x 4 | | | | —

Optional accessories on page #52.
Optional Accessories

**YC-850: Wall-Mount Bracket**
- Designed to mount N-8000RS, N-8010RS, N-8400RS, N-8000DI, N-8000AF, N-8000AL and N-8000CO on a wall.
- Finish: Surface-treated steel plate, black, 30% gloss
- Dimensions: 45.1 (W) x 220 (H) x 10 (D) mm (1.78” x 8.66” x 0.39“)

**YC-280: Wall-Mount Bracket**
- Designed to mount N-8000MS, N-8010MS, N-8410MS, N-8510MS and N-8600MS on a wall.
- Finish: Surface-treated steel plate, gray paint
- Dimensions: 100 (W) x 140 (H) x 31.8 (D) mm (3.94” x 5.51” x 1.25“)

**YC-290: Wall-Mount Bracket**
- Designed to mount N-8011MS on a wall.
- Finish: Surface-treated steel plate, gray paint
- Dimensions: 64 (W) x 131.5 (H) x 31.8 (D) mm (2.52” x 5.18” x 1.25“)

**YC-241: Flush-Mounted Back Box**
- Designed to surface-mount N-8031MS on a wall.
- Finish: Coloured chrome painting
- Dimensions: 276 (W) x 119 (H) x 67 (D) mm (10.87” x 4.69” x 2.64“)

**YC-150: Flush-Mount Back Box**
- Designed to flush-mount N-8050DS and N-8640DS on a wall.
- Finish: Zinc-plating
- Dimensions: 184 (W) x 119 (H) x 57 (D) mm (7.24” x 4.69” x 2.24“)

**YC-841: Back Box**
- Designed to flush-mount N-8033MS on a wall.
- Finish: Surface-treated steel plate, white
- Dimensions: 119 (W) x 258 (H) x 57 (D) mm (4.69” x 10.16” x 2.24“)

**YS-13A: Surface-Mount Back Box**
- Designed to surface-mount N-8050DS and N-8640DS on a wall.
- Finish: Zinc-plating
- Dimensions: 163.5 (W) x 116.5 (H) x 55 (D) mm (6.44” x 4.59” x 2.17“)
Optional Accessories

**YC-822: Indoor Wall-Mount Bracket**
- Finish: Surface-treated steel plate, white
- Dimensions: 124 (W) x 124 (H) x 61 (D) mm (4.88” x 4.88” x 2.4”)

**YC-302: 2-Gang Electrical Box**
- Finish: Paint, MFZn4 (glazed chromate)
- Dimensions: Outlet box: 102 (W) x 102 (H) x 44 (D) mm (4.02” x 4.02” x 1.73”)
  - Cover: 106 (W) x 106 (H) x 13 (D) mm (4.17” x 4.17” x 0.51”)

**YC-823: Outdoor Wall-Mount Box**
- Designed to mount RS-170, RS-180, RS-470 and RS-480 on a wall.
- Finish: Stainless plate, off-white
- Dimensions: 124 (W) x 124 (H) x 62 (D) mm (4.88” x 4.88” x 2.44”)

**AD-121SP: AC Adapter**
- The AD-121SP is an AC adapter to operate the IP Station on AC.

**MB-15B-BK: Half Width Blank Panel**
- Rack mounting bracket kit for one N-8000/AG/AL/CO (1 RU)
- Mount a one-unit-size component that is 210 mm (8.27”) in width in a component rack.
- Finish: Black

**MB-15B-J: Rack Joint Bracket**
- Rack mounting bracket kit for two N-8000/AG/AL/CO (1 RU)
- Side-by-side connection of two one-unit-size components that are 210 mm (8.27”) in width in a component rack.
- Finish: Black

**Q-N8000LC: N-8000RS Adapter**
- Conversion adapter for N-8000RS or N-8010RS.
- Select between speaker, RS station or line level
- Dimensions: 69 (W) x 39 (H) x 28 (D) mm (2.72” x 1.54” x 2.17”) (Not including output connectors)

**E-7000TB: Terminal Board Unit**
- Rack mountable terminal board designed exclusively for use with the N-8000 Packet Intercom System (IP network compatible intercom).
- Up to 40 stations can be connected to the E-7000TB.
- Finish: Panel: Surface-treated steel plate, black, 30% gloss
- Dimensions: 482 (W) x 132.6 (H) x 108.8 (D) mm (18.98” x 5.22” x 4.28”)

**YC-822: Indoor Wall-Mount Bracket**
- Finish: Surface-treated steel plate, white
- Dimensions: 124 (W) x 124 (H) x 61 (D) mm (4.88” x 4.88” x 2.4”)

**YC-302: 2-Gang Electrical Box**
- Finish: Paint, MFZn4 (glazed chromate)
- Dimensions: Outlet box: 102 (W) x 102 (H) x 44 (D) mm (4.02” x 4.02” x 1.73”)
  - Cover: 106 (W) x 106 (H) x 13 (D) mm (4.17” x 4.17” x 0.51”)

**YC-823: Outdoor Wall-Mount Box**
- Designed to mount RS-170, RS-180, RS-470 and RS-480 on a wall.
- Finish: Stainless plate, off-white
- Dimensions: 124 (W) x 124 (H) x 62 (D) mm (4.88” x 4.88” x 2.44”)

**AD-121SP: AC Adapter**
- The AD-121SP is an AC adapter to operate the IP Station on AC.