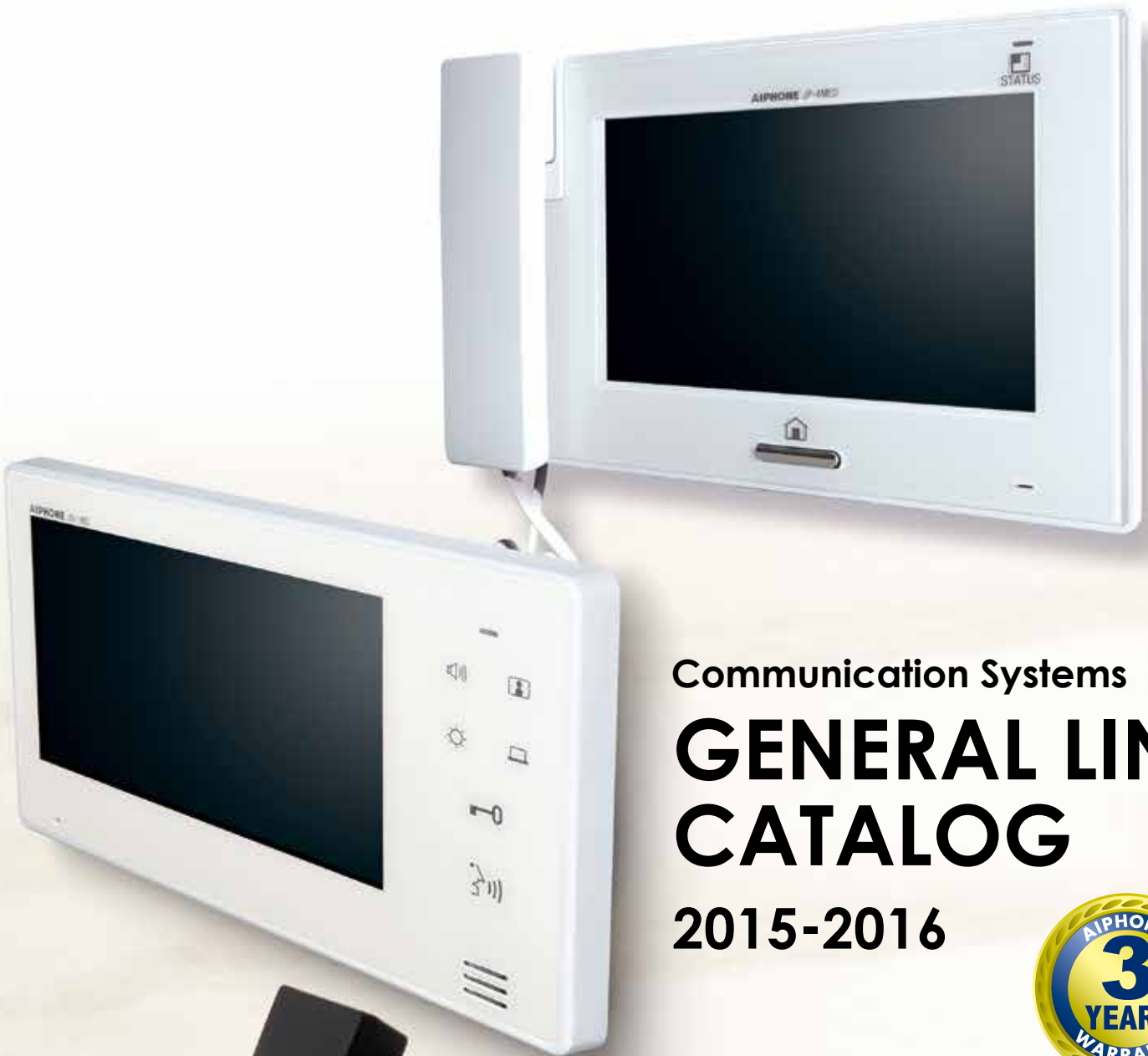


# AIPHONE



Communication Systems

## GENERAL LINE CATALOG

2015-2016



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COLOR VIDEO ENTRY SECURITY



MULTI-TENANT BUILDING ENTRY SECURITY



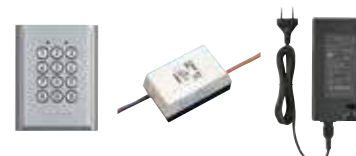
INTEGRATED SECURITY & COMMUNICATION SYSTEM



AUDIO ENTRY SECURITY



INTERCOM SYSTEM



ACCESSORIES



# AIPHONE

## Communication Systems for business, home and industry

### Established In 1948

Aiphone has become the most respected and reliable brand of communication systems in the world. With headquarters in Nagoya and manufacturing in Toyota City, Central Japan, we export to over 60 countries. We expand ourselves along with a North American marketing, sales and distribution center near Seattle, Washington, and an European sales and distribution center in Lisses-Evry, France.

### Systems For Every Application

Aiphone products range from simple do-it-yourself door answering units to sophisticated video entry security systems, complex microprocessor-based commercial systems, and luxury condo/apartment security/communication systems. They are unrivaled in design simplicity, technical excellence and reliability. With over 30 standard systems, and additional manufacturing by special order, we can create a system for virtually any intercom application.

### Designed To Last

Every Aiphone system is the result of painstaking attention to detail: contemporary European style design, the finest quality hardware and circuitry, engineered, built and 100% pre-tested for sustained trouble-free service.



**AIPHONE CO., LTD.**  
in Japan Headquarters



**Toyota factory**



## ISO 9001

Aiphone is the first intercom manufacturer worldwide to receive ISO 9001 certification, and the only one selling in North America. An agency representing the International Standards Organization (ISO), headquartered in Geneva, Switzerland, graded Aiphone against guidelines for design and development, production, and product inspection and testing. ISO 9001 standards provide an immediate recognition of product quality almost anywhere in the world.



**ISO 9001 Certified**  
JQA-0291  
**AIPHONE CO., LTD.**

## Winner Of The Deming Prize

Aiphone is the first and only intercom manufacturer to win the Deming Prize, the highest international award for quality control. Named in honor of Dr. W. Edwards Deming, the award honors firms worldwide which advance and maintain manufacturing quality.



**Deming Prize**

## Acquisition of ISO 14001

ISO's Environmental Standards are a series of voluntary standards and guideline reference documents which include environmental management systems, eco-labeling, environmental auditing, life cycle assessment, environmental performance evaluation, and environmental aspects in products standards. In early 1998, our management team determined to acquire ISO-14001 approval as a company-wide project, and working committee was established at the same time. Since then, with our ongoing efforts and practice about environmental management standards, we have succeeded to acquire the approval.

Aiphone excludes the use of prohibited material from the product according to RoHS directive (2002/95/EC). Therefore, as of July 1, 2006, all the Aiphone products imported in EU will be fully complied with the RoHS directive.



**ISO 14001 Certified**  
JQA-EM0453  
Headquarters section  
Toyota Factory  
Taiho Site  
**AIPHONE CO., LTD.**



**AIPHONE CORPORATION**  
**in USA**



**AIPHONE S.A.S.**  
**in France**





# ENVIRONMENTAL REPORT

**We will contribute to building a sustainable society while cultivating communications with a wide spectrum of our stakeholders.**

## Basic Environmental Philosophy

Revised October 1, 2005

Based on our business philosophy of "Be Responsible for your job and don't cause of problems for others," we carry out our activities while harmonizing conservation of the global environment with our business operations.

## Environmental Policy

The AIPHONE group aspires to be enterprises capable of making contributions to society by using communication and security technologies, conducting our environmental activities as follows:

- (1) We will strive to minimize environmental loads to conserve the global environment in our activities of developing, producing, selling, and servicing our products.
- (2) We will make our goals and objectives clear in our business activities, continuously evaluating the following items and thus improving them:
  - a) We will aim to become a recycling society and make efforts to promote the 3R's (Reduce, Reuse, and Recycle) and minimize waste.
  - b) We will not use harmful substances that cause environmental contamination.
  - c) We will strive to conserve energy to prevent global warming.
- (3) We will conform to environment-related laws, regulations, and conventions while establishing voluntary standards to conserve the environment.
- (4) Placing great value on communication, we will promote the manufacture of products friendly to both humans and the environment.
- (5) We will conduct environmental audits in an effort to maintain and improve our environment management system.
- (6) We will make our environmental policy thoroughly known to our employees and all those who work together with us.
- (7) We will publicize this environmental policy to the general public.



**Certificate of acquisition of  
ISO 14001 accreditation**

This report is also posted on our website:  
**<http://www.aiphone.net>**



# Lineup

Aiphone provides you with a variety of security systems and intercoms from small to extensive IP network systems, so that you can choose the perfect solution for your security needs.



COLOR VIDEO ENTRY SECURITY **P1~**



MULTI-TENANT BUILDING ENTRY SECURITY **P15~**



INTEGRATED SECURITY & COMMUNICATION SYSTEM **P32~**



AUDIO ENTRY SECURITY **P59~**



INTERCOM SYSTEM **P72~**

# COLOR VIDEO ENTRY SECURITY

**7-inch**  
display

COLOR VIDEO ENTRY SECURITY



**7-inch**  
display





The JP Series and JO Series intercoms feature a large **7-inch** display for clear visitor identification.



## JP Series

### Touchscreen

Oversized buttons and intuitive icons allow for quick navigation and control.



**Multi-station,  
multi-function type**



## JO Series

### Non-mechanical touch buttons

Quick & easy icons simply require a light touch to operate the intercom.



**Simple type**

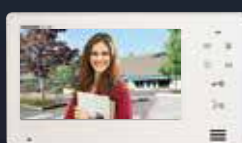
#### Lineup

7-inch Touchscreen  
Color Video Intercom  
JP-4MED



P3~

7-inch Screen  
Color Video Intercom  
JO-1MD



P7~

Wide and Zoom & PanTilt  
Hands-free Color Video Intercom  
JK-1MD/JK-1MED



P9~

Hands-free Color Video  
Intercom  
AX



P13~

# 7-inch Touchscreen Color Video Intercom

**NEW**

DOOR

4

ROOM

8

**JP-4MED**

## Features

- 7-inch touchscreen for operation
- Hands-free or handset audio communication
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Record visitor images both automatically & manually

COLOR VIDEO ENTRY SECURITY

### Door station



**JP-DV**  
Wide and Zoom & PanTilt  
Vandal resistant  
video door station,  
surface mount



**JP-DVF**  
Wide and Zoom & PanTilt  
Vandal resistant  
video door station,  
flush mount



**JP-DA**  
Wide and Zoom & PanTilt  
video door station,  
surface mount

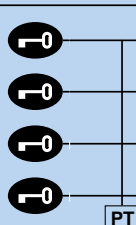


**JP-DVF-L**  
Wide and Zoom & PanTilt  
Vandal resistant video  
door station (Guidance-enabled type)

### Master station



**JP-4MED**  
Hands-free color video intercom  
master station



**RY-3DL**  
Multiple door  
release adaptor

3 connectors



**GT-D**  
Audio door  
station

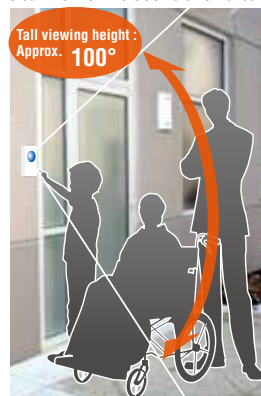
Cat5e

Power supply **PS-2420S PS-2420UL** → P.104

## The wide monitor clearly shows all 170 degrees of video captured by the camera



The JP Series 170° wide angle and 100° vertical angle camera minimizes blind spots, ensuring a clear view of the door station area.



Tall viewing height :  
Approx. 100°

Wide viewing area :  
Approx. 170°

## Focus on a particular area for more detail.

### Zoom

Using the touchscreen, zoom into visitor faces and other specific areas.



WIDE IMAGE



ZOOM IMAGE

### PanTilt

Using the PanTilt function, view details such as ID badges or labels.



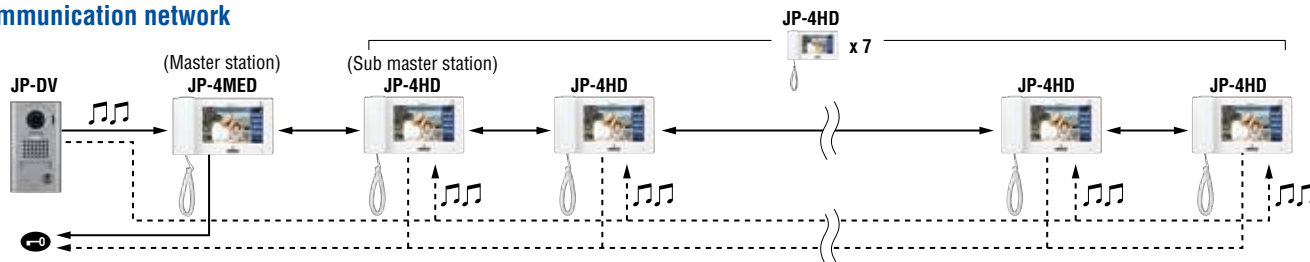
ZOOM IMAGE



PANTILT IMAGE

High image quality provides  
a clear view of detailed areas.

## Communication network



The design and specifications are subject to change without notice for improvement.



- 3 wiring methods selectable (Station-to-station, Homerun, or combined wiring)
- 2 internal calls selectable (All call or Individual call)
- Audio monitoring of other master stations
- Option: 3 sensors connectable to the master station



Commercial



Residential



Retail Shops



Factories



Schools

## Sub master station



**JP-4HD**  
Hands-free color video intercom  
sub master station

## Boxed sets



**JPS-4AED:** JP-4MED, JP-DA  
**JPS-4AEDV:** JP-4MED, JP-DV  
**JPS-4AEDF:** JP-4MED, JP-DVF

Add appropriate power supply

**JP-4HD**

**JP-4HD**

**JP-4HD**

**JP-4HD**

Cat5e

Cat5e

Cat5e

Cat5e

**PS24**

Cat5e

**JP-4HD**

**JP-4HD**

Cat5e

**PS24**

## Access Control → P.99



**AC-10S**  
Access control  
keypad,  
surface mount



**AC-10F**  
Access control  
keypad,  
flush mount



**JP-DV + AC-10S**

## Lineup



**JPW-BA**  
Long distance adaptor  
→ P.6



**JP-8Z**  
Distribution adaptor



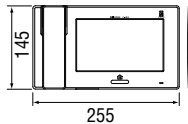
**EL-12S**  
Electric door strike  
→ P.101



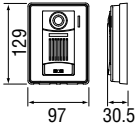
**RY-3DL**  
Multiple door  
release adaptor  
→ P.6

## Unit dimensions

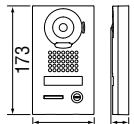
**JP-4MED, JP-4HD**



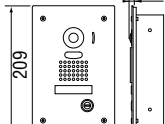
**JP-DA**



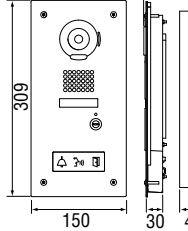
**JP-DV**



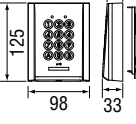
**JP-DVF**



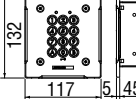
**JP-DVF-L**



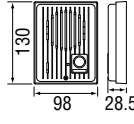
**AC-10S**



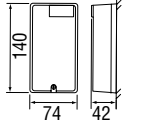
**AC-10F**



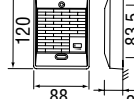
**GT-D**



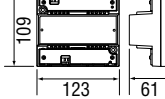
**RY-3DL**



**IER-2**



**JP-8Z**



## Specifications (JP-4MED, JP-4HD)

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	Max. 340mA (JP-4MED). Max. 200mA (JP-4HD)
Calling	Chime. Image & audio, approx. 45 or 90 sec.
Communication	Automatic (Hands-free): approx. 1 min. To activate, touch TALK button. Handset: approx. 3 min. To activate, lift handset.
Video monitor	7-inch color LCD screen
Pixels	1,150,000 pixels
Video output	NTSC/PAL, 1Vp-p/75Ω
Night viewing	Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC, 1A (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: CAT5e
Wiring distance (→ P.5)	Door to Master: 100m (1.0mmø) Master to farthest sub: 300m (CAT5e)

## Image view area

**JP-DA, JP-DV, JP-DVF, JP-DVF-L**

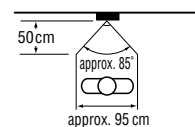
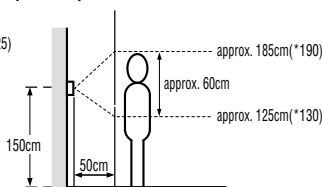
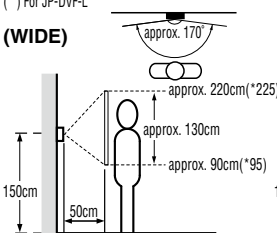
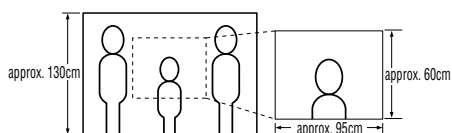
(WIDE)

(ZOOM)

(\*) For JP-DVF-L

(WIDE)

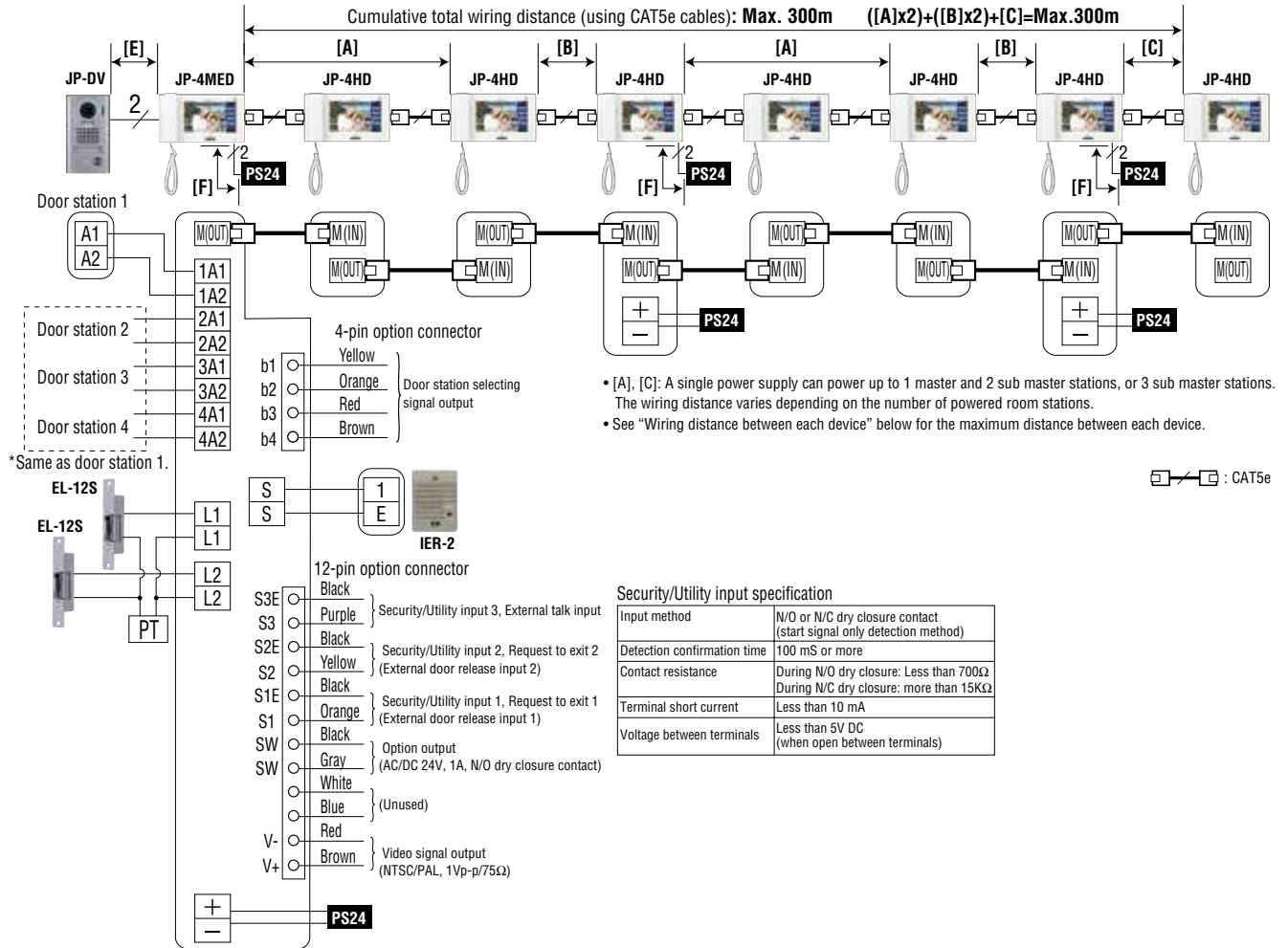
(ZOOM)



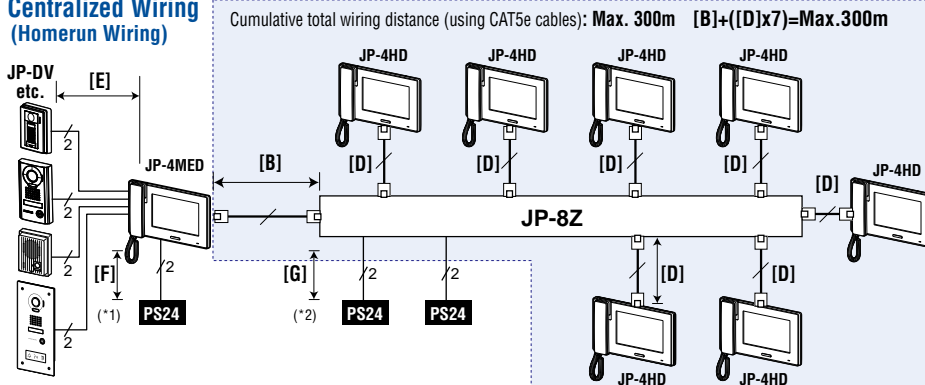
# 7-inch Touchscreen Color Video Intercom

## Wiring

### Station-to-Station Wiring (Daisy-chain Wiring)



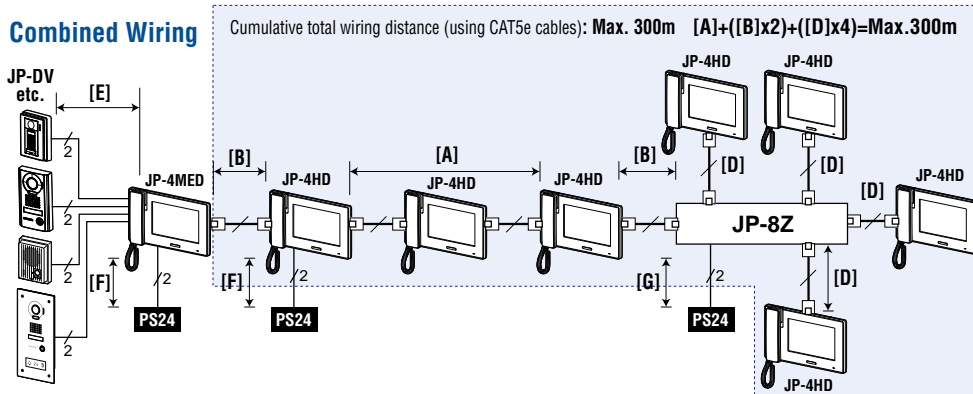
### Centralized Wiring (Homerun Wiring)



(\*1): The master station requires a power supply.

(\*2): Up to 4 sub master stations can be powered with one power supply. Use two power supplies for 5 - 7 sub master stations. See "Wiring distance between each device" on the right for the maximum distance between each device.

### Combined Wiring



See "Wiring distance between each device" on the right for the maximum distance between each device.

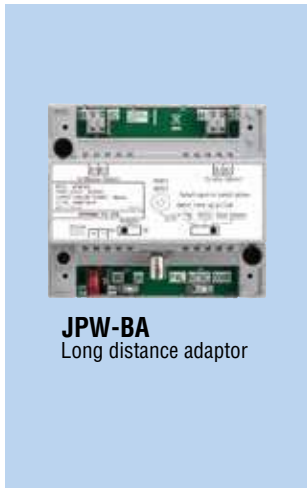
#### Wiring distance between each device

CAT5e	Notes
[A] 30m	When 3 room stations are powered by a single power supply
[B] 200m	
[C] 50m	When 2 room stations are powered by a single power supply
[D] 50m	

Wire diameter (PE cable)				
	Ø0.65 mm	Ø0.8 mm	Ø1.0 mm	Ø1.2 mm
[E]	50m	100m	100m	100m
[F]	5m	5m	10m	10m
[G]	5m	10m	10m	10m

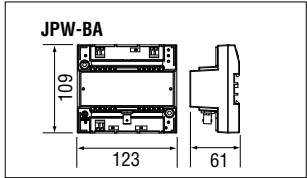
# Long distance adaptor



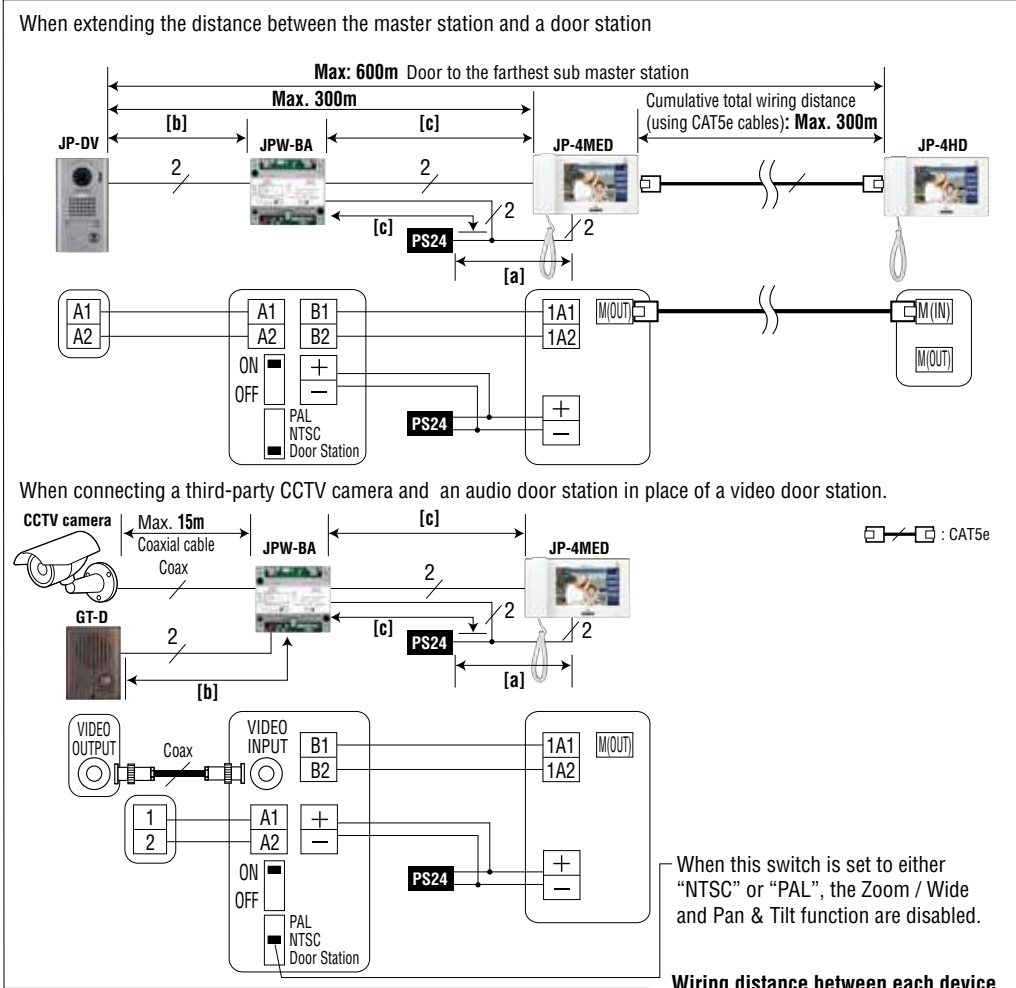
## Features

- When JP series door station is more than 100m to max. 300m away.
- CCTV camera can be integrated by connecting JPW-BA.

## Unit dimensions



## Wiring



## Specifications

Power source	24VDC, PS-2420S, PS-2420UL of system or separate
Current consumption	MAX. 90mA
Wiring	2 parallel wires to ea. door & master.

## Wiring distance between each device

	Wire diameter (PE cable)			
	Ø0.65 mm	Ø0.8 mm	Ø1.0 mm	Ø1.2 mm
[a]	5m	5m	10m	10m
[b]	100m	150m	200m	200m
[c]	50m	75m	100m	100m

# Selective door release adaptor



## Specifications

Power source	12~24V DC, 30mA 12~16V AC, 60mA
Power supply	PS-2420S/UL; PS-1820S/UL; PS-1225S/UL; AC trans.
Relay contacts	Normally open output. 1A at 50V AC. 1A at 30V DC (for other types, use matching relay)
Wiring distance	Master to RY-3DL 50m(0.65mmø) 100m(1.0mmø) RY-3DL to EL-12S 50m(0.65mmø) 100m(1.0mmø)

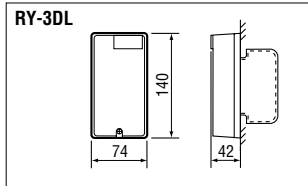
## Features

- Selective door release with one button
- Door release contacts release the door where communication is established.
- Normally open contacts for electric strike. Normally closed contacts to work with magnetic locks.

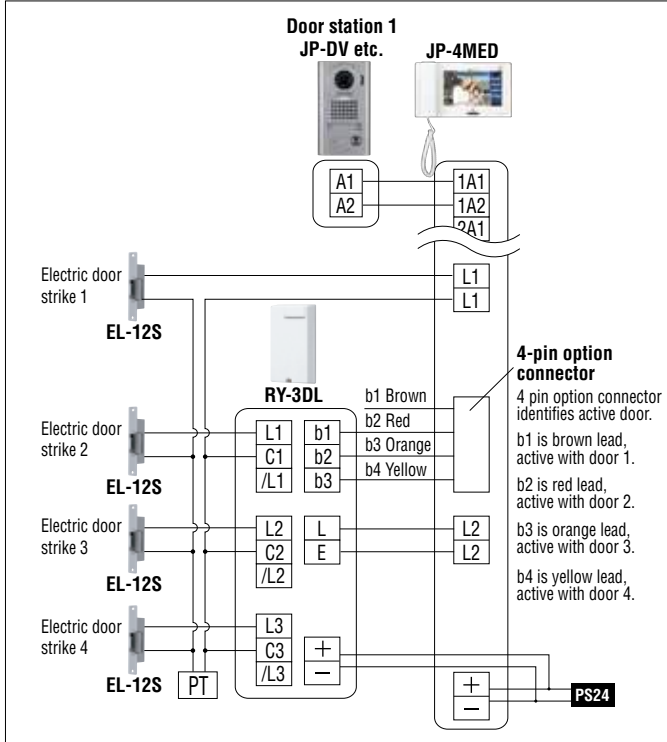
## Used for

JP-4MED

## Unit dimensions



## Wiring



PT : AC transformer PS24 : PS-2420S/UL

# 7-inch Screen Color Video Intercom

DOOR

1

ROOM

2

## JO-1MD

COLOR VIDEO ENTRY SECURITY

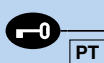
### Door station



**JO-DV**  
Vandal resistant video  
door station, surface mount  
or



**JO-DVF**  
Vandal resistant video  
door station, flush mount



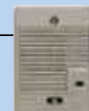
**JO-DA**  
Video door station,  
surface mount

### Expansion monitor station



**JO-1FD**  
Expansion monitor station

**PS18**



**IER-2**  
Call extension  
→ P.101

Power supply **PS-1820S PS-1820UL** → P.103

### Features

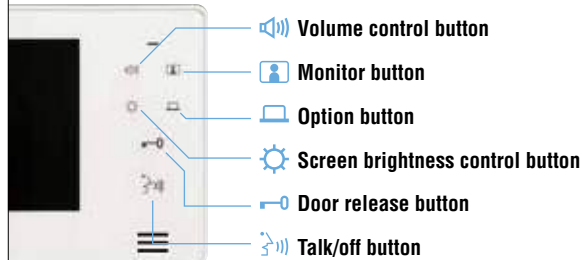
- Total hands-free communication
- Video image adjusting function
- Room to room communication is **not** available
- Easy operation by buttons with picture indications
- Option output: Option button connectable to the master station and expansion monitor station.

### 7-inch screen

View images more clearly with 7-inch screen!

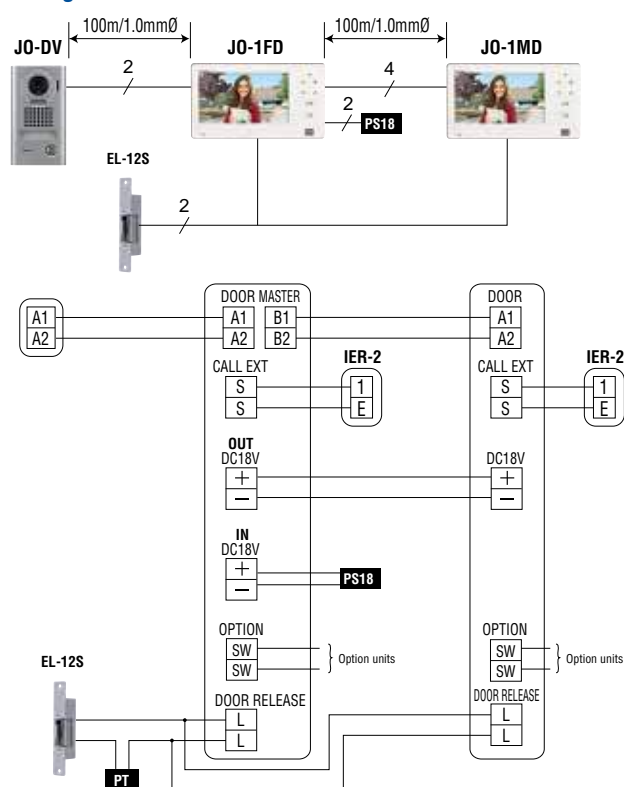


### Control buttons



The design and specifications are subject to change without notice for improvement.

### Wiring





Commercial



Residential

## Master station



**JO-1MD**  
Master station



2



**IER-2**  
Call extension  
→ P.101

## Boxed sets



### Standard

**JOS-1A:** JO-1MD, JO-DA  
**JOS-1V:** JO-1MD, JO-DV  
**JOS-1F:** JO-1MD, JO-DVF

## Access Control → P.99



**AC-10S**  
Access control  
keypad,  
surface mount



**AC-10F**  
Access control  
keypad,  
flush mount

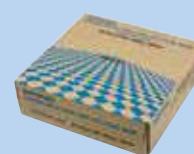


**JO-DV + AC-10S**

## Lineup

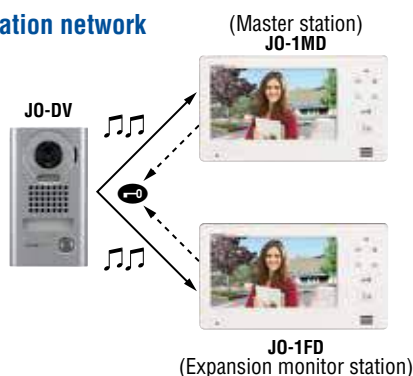


**EL-12S**  
Electric door strike  
→ P.101

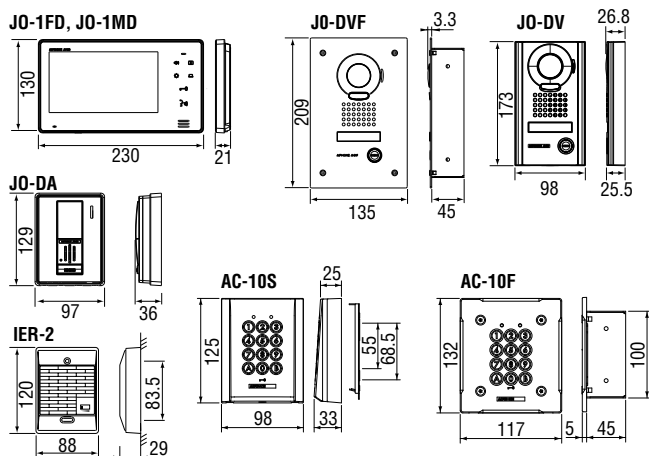


**AE7090210B**  
**AE7090210G**  
ALPHONE approved  
product wire  
→ P.104

## Communication network



## Unit dimensions

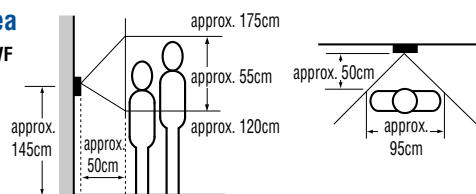


## Specifications

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 440mA(JO-1MD). Max. 460mA (JO-1HD)
Calling	Chime. Image, approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 2 sec. or more.
Video monitor	7-inch color LCD screen
Pixels	1,150,000 pixels
Night viewing	*Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC, 0.5A (N/O dry closure contact)
Wiring	Door to master (or Expansion monitor) : 2-cond., mid cap solid, non-shielded. Expansion monitor to Master : 4-cond., mid cap, solid, non-shielded.
Wiring distance	Door to Master(or Expansion monitor station): 100m (1.0mmØ) Expansion monitor to master monitor station : 100m (1.0mmØ) Monitor station to IER-2: 150m(1.0mmØ)

## Image view area

JO-DA, JO-DV, JO-DVF





# Wide and Zoom & PanTilt Hands-free Color Video Intercom

## 1 DOOR 2 ROOM JK-1MD/JK-1MED

### Door station



**JK-DV**  
Wide and Zoom & PanTilt Vandal resistant video door station, surface mount  
or



**JK-DVF**  
Wide and Zoom & PanTilt Vandal resistant video door station, flush mount

or



**JK-DA**  
Wide and Zoom & PanTilt video door station, surface mount

**Power supply PS-1820S PS-1820UL → P.103**

### Master station



**Standard**  
Non-Picture memory

**JK-1MD**  
Master station w/Wide and Zoom & PanTilt color monitor

or



**Picture memory**

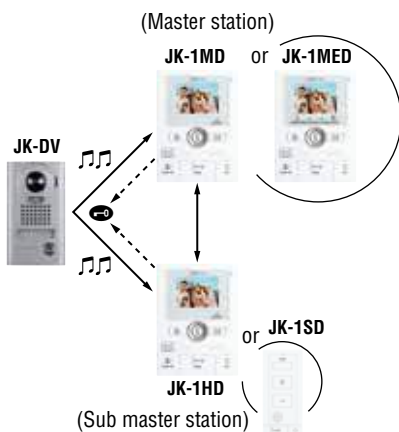
**JK-1MED**  
Master station w/Wide and Zoom & PanTilt color monitor & built-in picture memory.

**IER-2**  
Call extension  
→ P.101

### Features

- Total hands-free communication, auto-voice actuation
- Visual monitoring with audio for 1 minute
- Instant voice call-in with image
- Press-to-talk operation available
- Press-to-talk restriction
- White LED illumination turns on in low-light conditions
- Video image adjusting function
- Full color video in low light situations w/o external illumination
- Camera angle preset
- External input
- Option - Option button, press-to-talk setting, video signal output

### Communication network



### PANORAMIC WIDE View

Everyone at the entrance can be identified by image from JK wide angle camera. The field of vision can be controlled on Wide mode or Zoom mode from inside.



WIDE IMAGE



ZOOM IMAGE

### Zoom & PanTilt

By pressing PanTilt button, the image of the PanTilt video door station can be adjusted to a more visible position from inside on the Zoom mode.



WIDE IMAGE

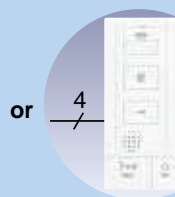


PanTilt on Zoom mode

\*The screen images are simulated graphics. They are images to express functions, and are different from the real one. Please understand it beforehand.



## Sub master station



or

4

**JK-1SD**  
Audio sub master station

**JK-1HD**  
Sub master station w/color monitor

## Boxed sets



Standard

**JKS-1AD:** JK-1MD, JK-DA  
**JKS-1ADV:** JK-1MD, JK-DV  
**JKS-1ADF:** JK-1MD, JK-DVF

Picture memory

**JKS-1AED:** JK-1MED, JK-DA  
**JKS-1AEDV:** JK-1MED, JK-DV  
**JKS-1AEDF:** JK-1MED, JK-DVF

Add appropriate power supply

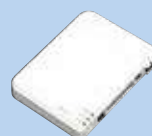
## Lineup



**JKW-BA**  
Long distance adaptor  
→ P.11  
\*Max. 300m away from Master/sub to Door.



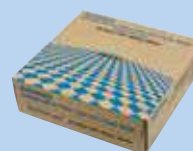
**EL-12S**  
Electric door strike  
→ P.101



**JKW-IP**  
IP color video intercom adaptor  
→ P.12



**JK-DVF-AC**  
Vandal resistant color video door station with access control keypad



**AE7090210B**  
**AE7090210G**  
AIPHONE approved product wire  
→ P.104

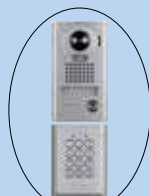
## Access Control → P.99



**AC-10S**  
Access control keypad, surface mount

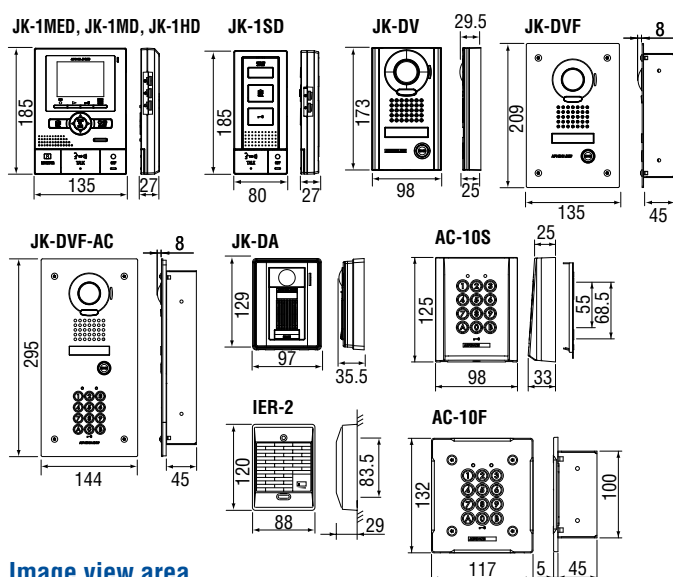


**AC-10F**  
Access control keypad, flush mount



**JK-DV + AC-10S**

## Unit dimensions



## Specifications

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 400mA (JK-1MD). Max. 200mA (JK-1HD). Max. 120mA (JK-1SD)
Calling	Chime. Image & audio, approx. 45 sec.
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Video monitor	3.5-inch direct-view TFT color LCD.
Scanning line	525 lines
Video output	NTSC, 1Vp-p/75
Night viewing	Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC, 1.6A (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: 4-cond., mid cap, solid, non-shielded.
Wire type	AIPHONE approved product wire: AE7090210B, AE7090210G
Wiring distance	Master/sub to door: 50m (0.65mmø) 100m (1.0mmø) Master to IER-2: 75m (0.65mmø) 150m (1.0mmø)

## Image view area

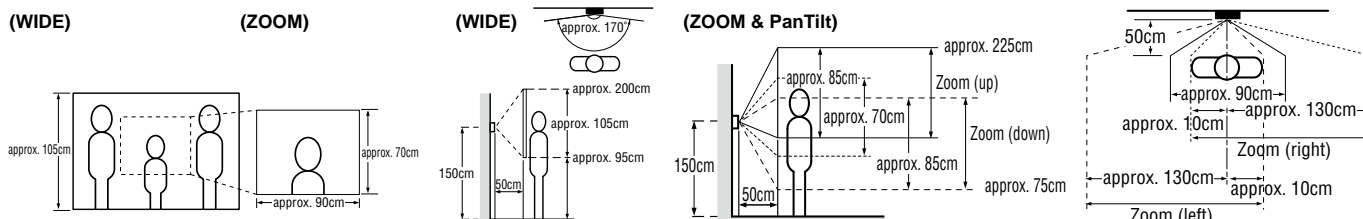
JK-DA, JK-DV, JK-DVF

(WIDE)

(ZOOM)

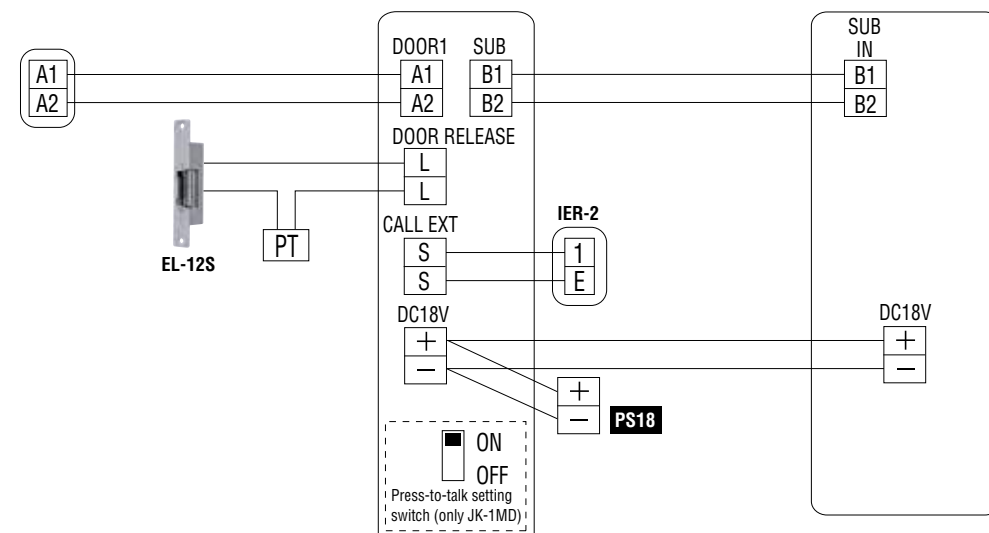
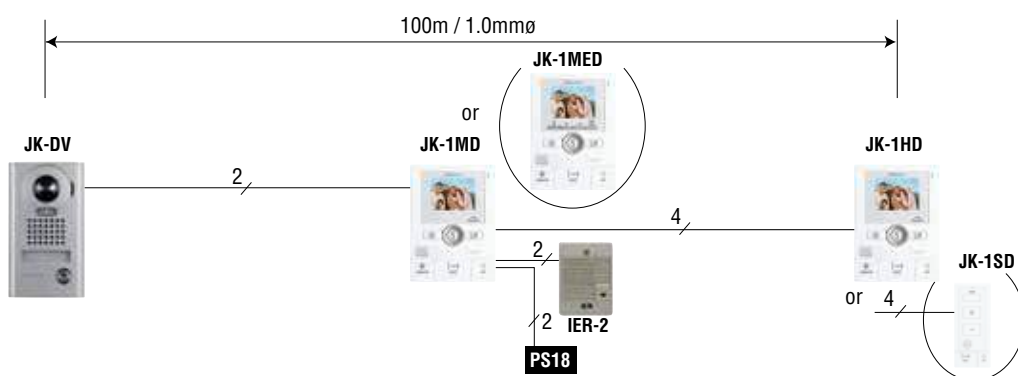
(WIDE)

(ZOOM & PanTilt)



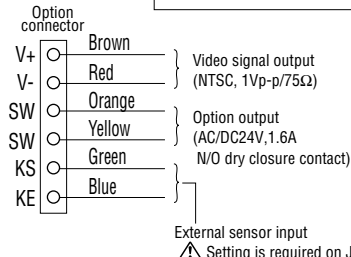
# Wide and Zoom & PanTilt Hands-free Color Video Intercom

## Wiring



**PS18** :PS-1820S, PS-1820UL

**PT** :AC Transformer



### External sensor input specification

Input method	N/O or N/C dry closure contact
Detection confirmation time	100 mS or more
Contact resistance	During N/O dry closure: Less than 700Ω During N/C dry closure: more than 3KΩ
Terminal short current	Less than 10 mA
Voltage between terminals	Less than 20V DC (when open between terminals)

## Cable

Vinyl jacketed, PE(polyethylene) insulation cable is recommended. For other types of cables, normal operation and max. communication distance cannot be guaranteed.

## Long distance adaptor for JK series

### Features

- When JK series color video door station is more than 100m to max. 300m away.

### Used for

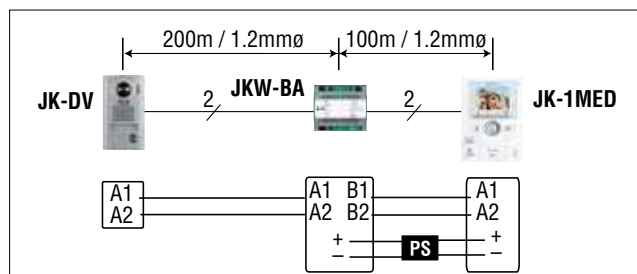
JK-1MD, JK-1MED

### Unit dimensions



**JKW-BA**  
Long distance adaptor

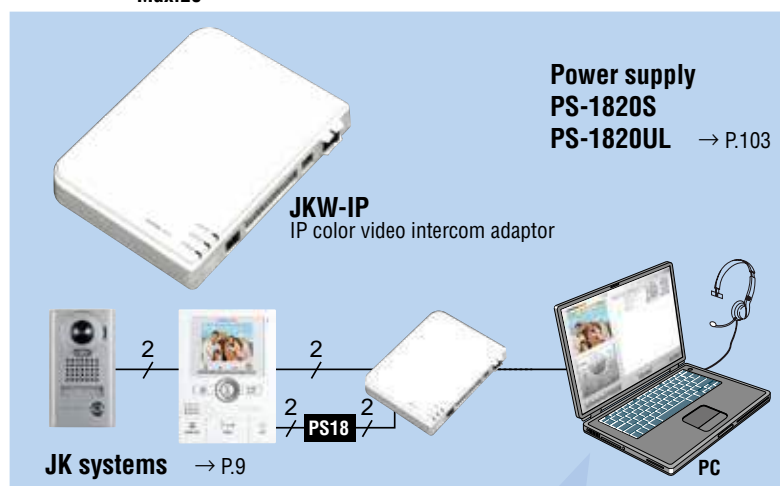
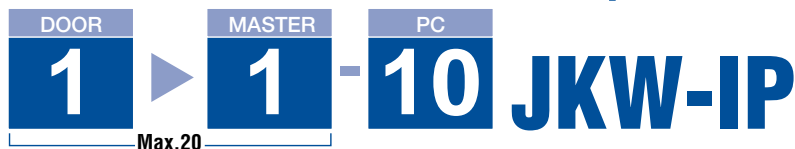
**JKW-BA**



### Specifications

Power source	18VDC, PS-1820S, PS-1820UL of system or separate
Current consumption	95mA
Wiring	2 parallel wires to ea. door & master.
Wire type	AlPHONE approved product wire: AE7120230B or 1.0mmø to 1.2mmø. Vinyl jacketed, PE (polyethylene) insulation cable.
Wiring distance	JK door~JKW-BA 100m~200m(1.2mmø) JKW-BA~JK master/JK-1HD/JK-1SD 100m(1.2mmø) JKW-BA~PS 100m(1.2mmø)

# IP color video Intercom adaptor



## Features

- Use of local area networks (LANs) and wide area networks (Internet) allow PCs to be used as a JK master unit
- Combine up to 20 JK master/Door systems
- 10 PCs can communicate to 20 JK systems
- Allow a PC to function as a JK master
- Connected PC(s) control PanTilt, zoom and wide views of entryway
- Images or movies from entranceways can be recorded and played back at a PC
- Use headset (not included) for communication
- E-mail can be automatically sent to 10 e-mail addresses when called from door station
- Audio recording with manual video recording
- Communicate to and from JK masters
- A single port can be used for multi-purpose external input

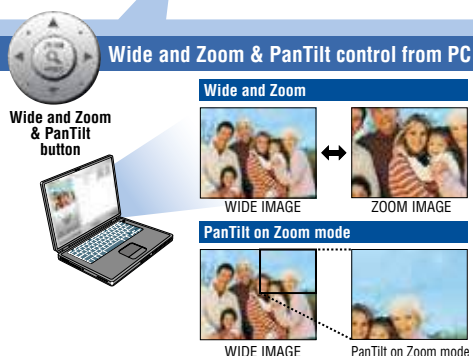
## Notice

- It may not be possible to use this product with certain network environments or PCs.
- To use this product via the Internet, a separate broadband connection and a router with a fixed IP address is required.
- To ensure proper function only use with approved routers. Refer our homepage for a list of approved routers which allow proper operations.
- Maintaining security at the computer(s) connected to the JKW-IP is the responsibility of the customer. Alphone assumes no responsibility for any losses incurred as a result of improper PC, firewall or other security.
- It is recommended that you use a 100BASE-TX wired LAN as the network.

## Application

A user friendly interface contains controls that match those on a JK-1MED. This allows the PC to be controlled in the exact manner as a master monitor.

### PC monitor



### Unlock the door after verifying visitor identity



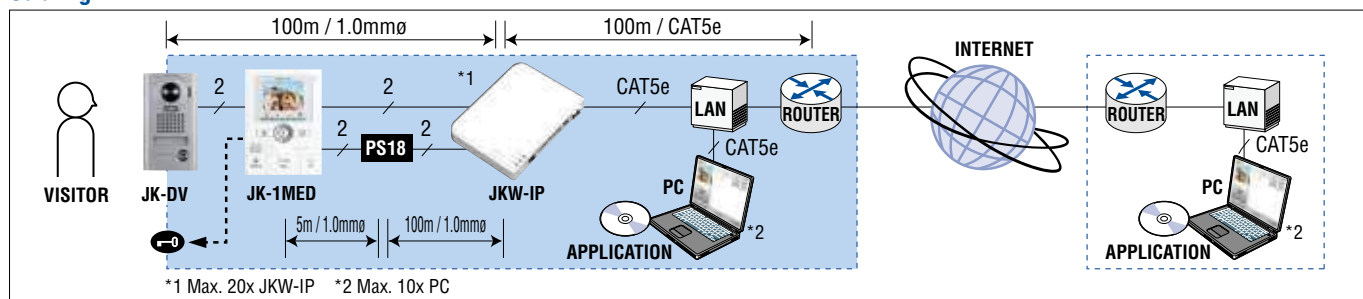
### Video & Audio communication with entrance side by PC



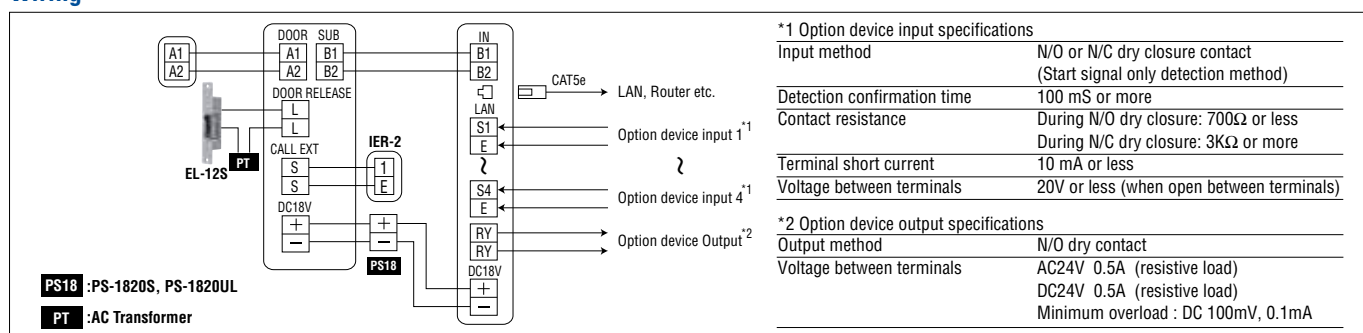
### Room to room communication with master station (JK-1MED or JK-1MD)



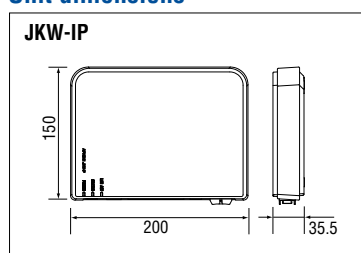
## Cabling



## Wiring



## Unit dimensions



## Specifications

Power source	18V DC
Power supply	PS-1820S, PS-1820UL
Consumption	Max. 200mA

## System requirements

OS	Windows XP Home/Professional (SP3), Windows Vista Ultimate/Home/Business/Enterprise (SP1)/32-bit version/64-bit version Windows 7 Home Premium/Professional/Enterprise/Ultimate/32-bit version/64-bit version Windows 8/Pro/Enterprise(32/64bit)
PC system requirements	Processor: 2 GHz or faster System memory (RAM): 1 GB RAM or more Hard disk: 10 MB or more (additional space is needed for recording) Sound card: 8-bit full duplex, Direct Sound compatible Display: 1024 x 768 or greater Run-time: Microsoft®.NET Framework 2.0 or later Network: 10BASE-T/100BASE-TX Ethernet
Protocol	TCP/IPv4, UDP/IPv4, SIP, Others
Network bandwidth	320 k to 8 Mbps (per IP Video Intercom Adaptor)
Language	English, French, Spanish, German, Dutch, Italian, Japanese
Internet Explorer	Internet Explorer 6.0 or later (with Internet Options SSL 3.0 enabled)

# Hands-free Color Video Intercom

MASTER

DOOR

8



120

AX

## Door station



**AX-DV**  
Color video door station surface mount



**AX-DVF**  
Color video door station flush mount



**AX-DV-P**  
Color video door station w/space for embed proximity reader



**AX-DVF-P**  
Color video door station w/space for embed proximity reader



**AX-DM**  
Audio door station Mullion type



**IE-JA**  
Audio door station

## Central exchange unit



**AX-084C**  
Central exchange unit, 4 masters and 8 doors



**AX-248C (Photo)**  
Central exchange unit, 8 masters and 24 doors



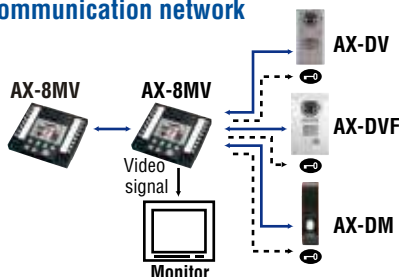
**AX-320C**  
Add-on exchange unit, 32 doors

**Power supply**  
**PS-2420S PS-2420UL**  
→ P.104

## Features

- All wired on CAT5e, homerun cabling
- Total hands-free, auto-voice actuation, communication or Press-to-talk operation
- Two talk channels and two video channels
- Communication privacy
- Masters available with 3.5-inch color TFT LCD
- Selective door release
- Master-to-master selective calling and All Call
- Standard or Priority call levels from door stations
- Scan monitoring: Hands-free audio/visual monitoring
- Video output from CEU and AX-8MV
- Integrate with CCTV, Access control etc.
- PC interface for programming and event logging
- Rack or wall mountable CEU
- Compatible with IE Series door stations
- Optional features: headset, footswitch, and PC remote control

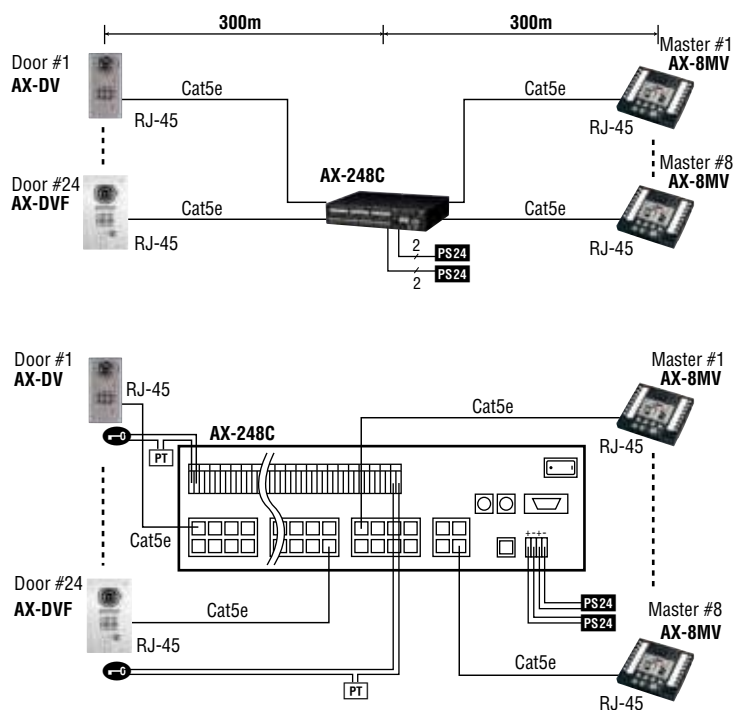
## Communication network



← Calling & communication (w/video from door)

--- Door release

## Wiring



PS24 : PS-2420S, PS-2420UL PT : AC transformer

## Master station

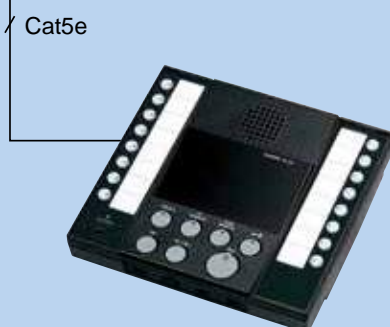


**AX-8MV**  
8-call color monitor master station

**AX-8MV-W**  
(white)



**AX-16SW**  
16-call add-on selector



**AX-8M**  
8-call audio master station



**AX-8MV, AX-16SW**

## Lineup



**EL-12S**  
Electric door strike  
→ P.101



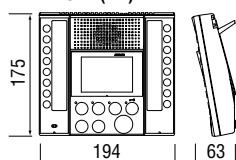
**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



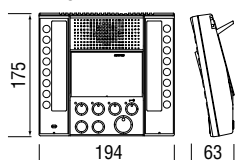
**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

## Unit dimensions

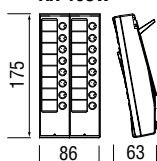
**AX-8MV(-W)**



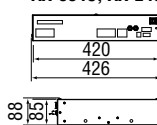
**AX-8M**



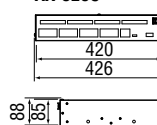
**AX-16SW**



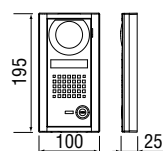
**AX-084C, AX-248C**



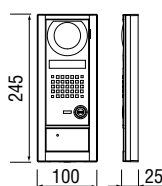
**AX-320C**



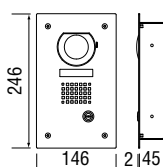
**AX-DV**



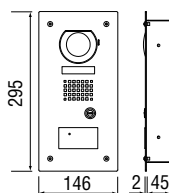
**AX-DV-P**



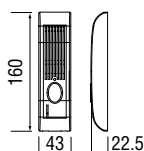
**AX-DVF**



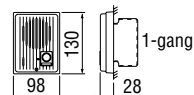
**AX-DVF-P**



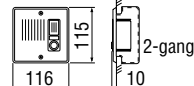
**AX-DM**



**IF-DA**

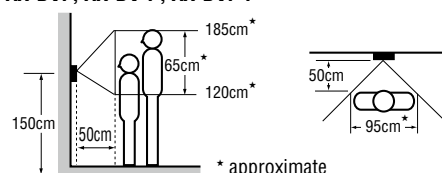


**IE-JA**



## Image view area

• AX-DV, AX-DVF, AX-DV-P, AX-DVF-P



## Specifications (AX)

Power source	24V DC, 2A (Two Power supplies per video system)
Power supply	PS-2420S, PS-2420UL
Current consumption	AX-084C: Video (Max.) 650mA, Audio (Max.) 700mA AX-248C: Video (Max.) 1150mA, Audio (Max.) 1250mA AX-320C: Video (Max.) 280mA, Audio (Max.) 180mA
Calling	Normal call: an intermittent tremolo Priority call: a rapid intermittent tremolo Approx. 10-600 sec. or infinite
Communication	AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more. Approx. 30-600 sec.
Video monitor	3.5-inch direct view TFT color LCD
Scanning lines	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release contact	24V AC/DC, 0.5A
Outside video output	AX-084C, 248C: NTSC standard 1Vpp (0.7-1.4Vpp) BNC x 2 Switching signal: Open collector output 24V DC, 30mA RJ-45 x 2
	AX-8MV: NTSC standard 1Vpp (0.7-1.4Vpp)
Wiring	Homerun CAT5e wire to CEU
Wiring distance	CEU to door: 300m (CAT5e) CEU to master: 300m (CAT5e)



# Hands-Free Color Video Multi-tenant Recording, Zoom & PanTilt features

## GT System

The GT Series provides building complexes with high performance security & usability. A variety of models adapt to almost any type of building.

MULTI-TENANT BUILDING ENTRY SECURITY

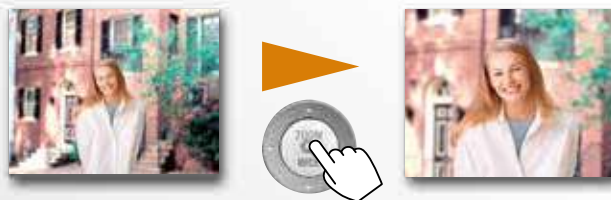
### Wide and Zoom & PanTilt

#### Panorama Wide Angle View

To provide effective security, the GT series features a wide angle camera that enables you to see an innovative panoramic view! People standing on sides and people of all heights can be easily identified.

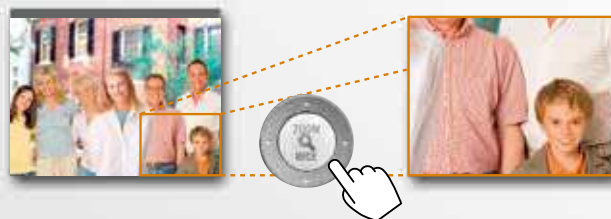
#### Zoom

To see details, switch to Zoom mode. Switching between Wide and Zoom mode can be easily done at the press of a button.



#### PanTilt

PAN/TILT is available to change the camera angle in Zoom mode.



Innovative Wide View of  
Approx. **170°**

### Recording

#### Automatic Recording

Works any time, even during your absence. Records 6 images per picture sequence. Up to 40 picture sequences can be recorded.



#### Manual Recording

Record picture as required. The recording starts when you press the REC button while monitoring or talking to a visitor.

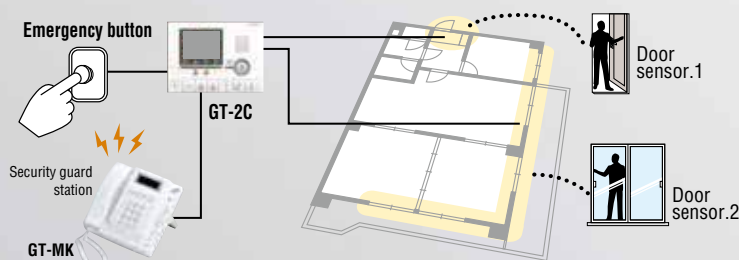
#### Playing

The play LED flashes when there are auto-recorded pictures. Press the PLAY button to play.



### Security

Only the master station with the recording function can be connected with 3 security lines. It can also be connected with an emergency button. When sensing an input from the button, the alarm will be triggered after the set time.



\* The design and specifications are subject to change without notice for improvement.



# Building System with



## ■ High Degree of Usability for Visitors and Other Features

### Audio & Visual Guidance

The Entrance Station features both audio and visual guidance, so any visitor knows the present situation. The audio guide is available in 6 languages (English, French, German, Spanish, Dutch, and Italian).

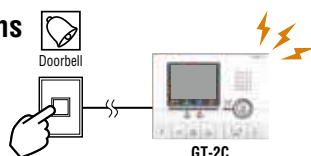


There are projections on the ⊗&⊙ buttons to help visually impaired visitors.



### Doorbell connections

You can connect stations to your existing doorbell.



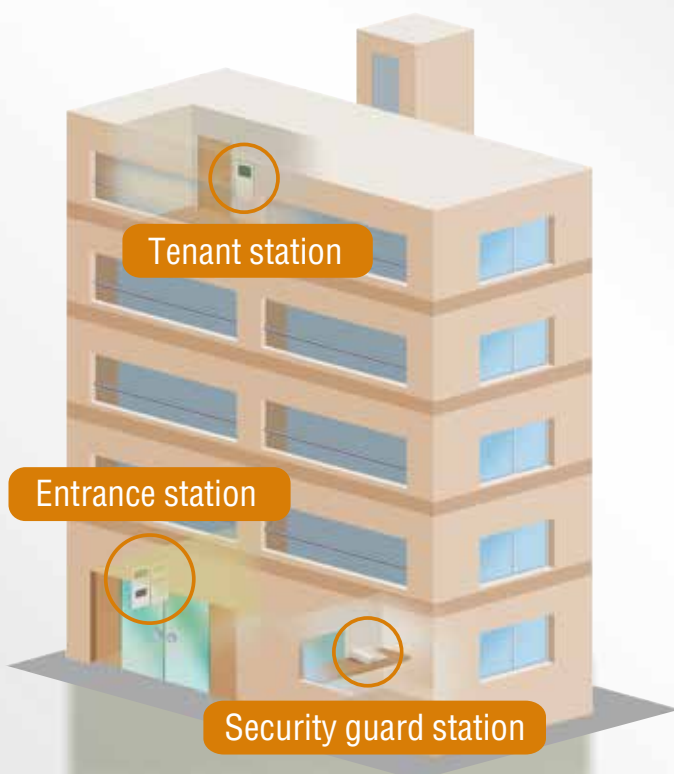
### Supports Hearing Aid with T-mode

A T-coil mode is now available with the GT Series.

If your hearing aid features T-mode, the sound from the GT room station is much clearer than other intercoms.



Up to 4 Internal Stations can be installed per tenant.



### Capacity

Standard

48

Expanded

500

### Tenant station



Hands-free color monitor tenant station GT-2C-L

### Capacity

Standard

5

Expanded

16

### Entrance station

GT-DM



### Capacity

Standard

2

Expanded

4

### Security guard station



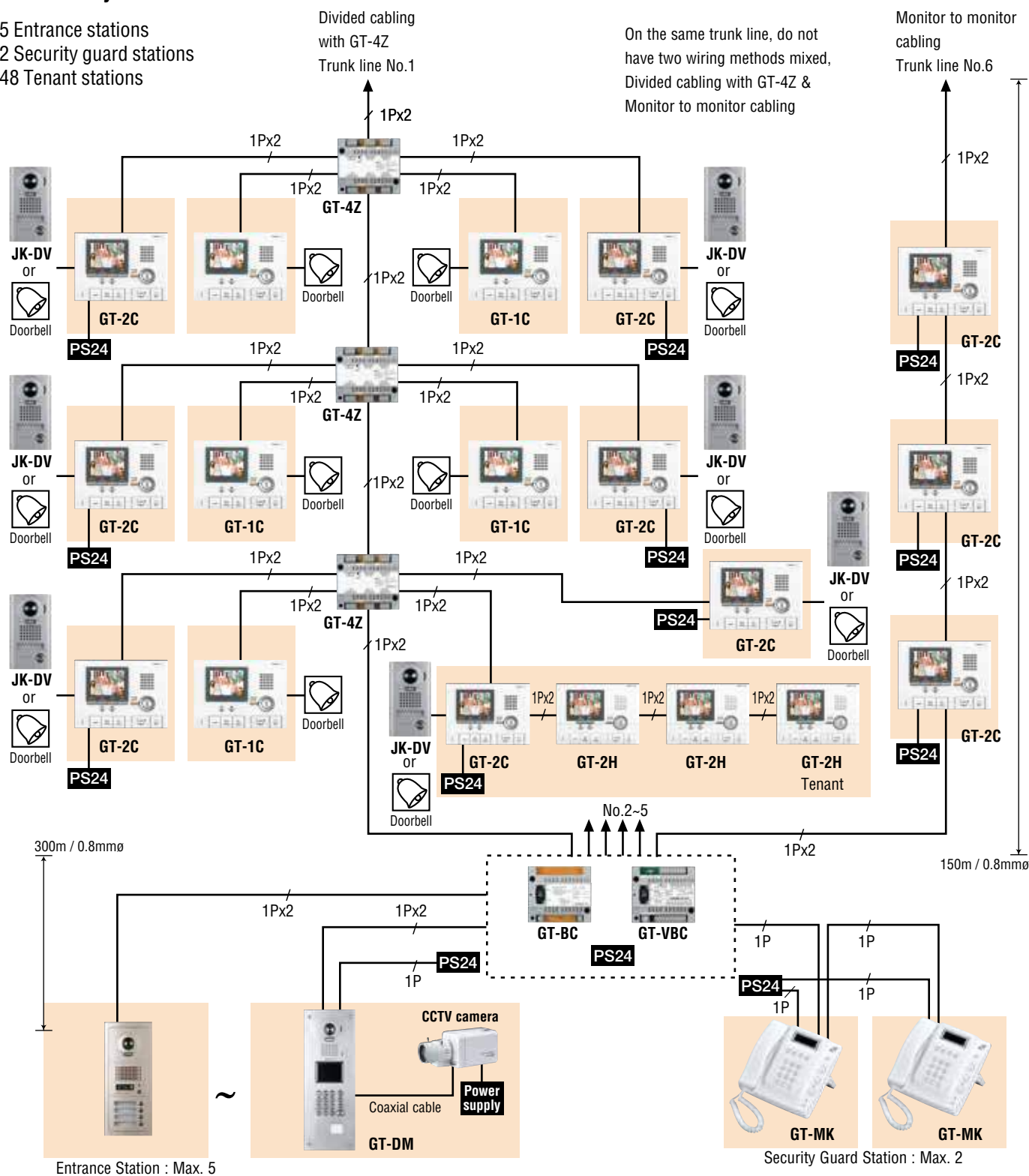
Security guard station GT-MK

# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## System Configuration

### Standard system

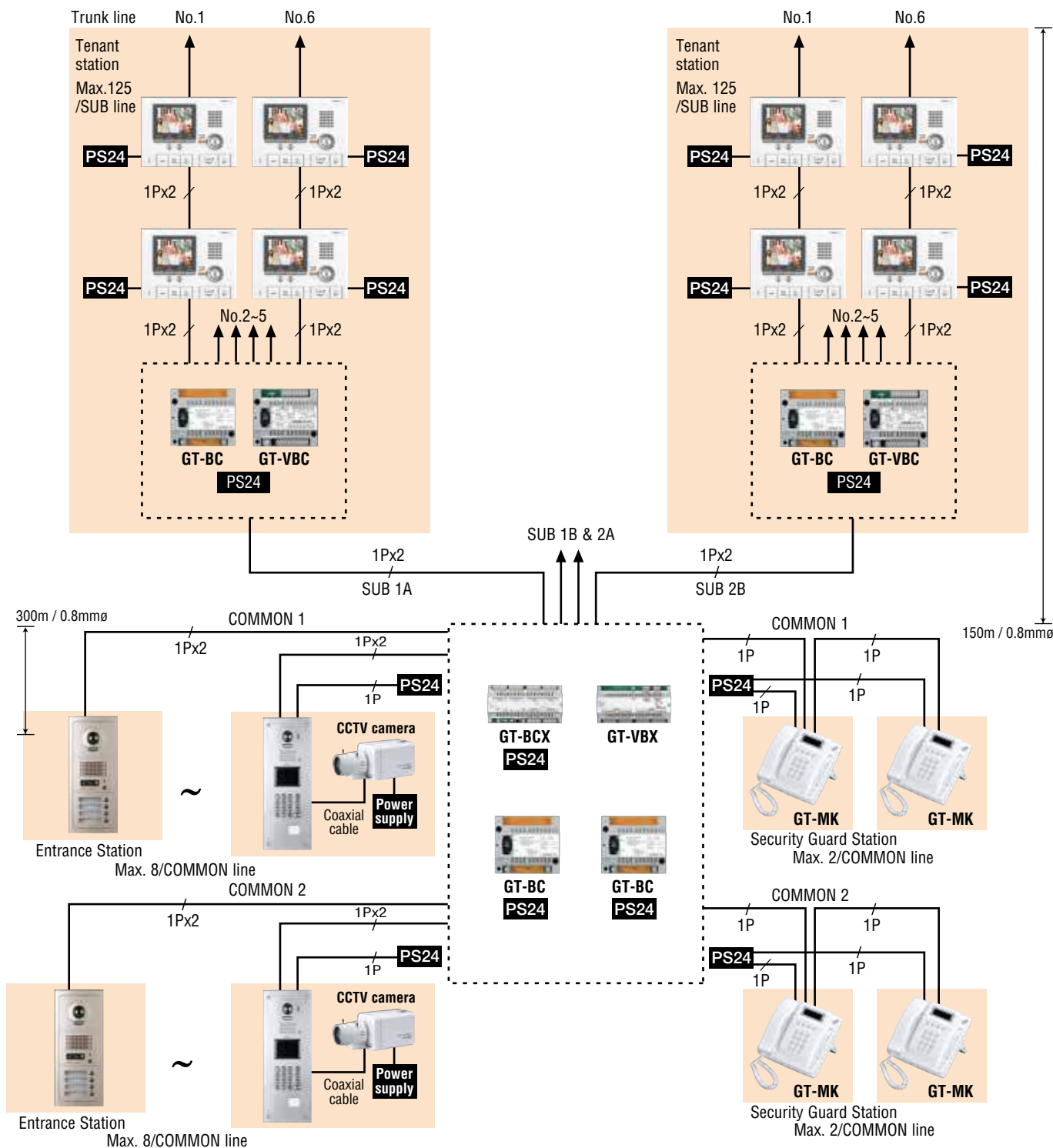
5 Entrance stations  
2 Security guard stations  
48 Tenant stations



Wiring distance: Entrance station - Bus & Video control unit 300m  
Video control unit - Farthest Video Tenant station 150m  
(Expandable with additional Video control unit)  
Bus control unit - Farthest Audio Tenant station 300m  
Accumulated total Audio wiring distance 2,500m

## Expanded system

16 Entrance stations, 2 common trunk lines (8 each per common line)  
 4 Security guard stations, 2 common trunk lines (2 each per common line)  
 500 Tenant stations, 4 sub trunk lines (125 each per sub trunk line)



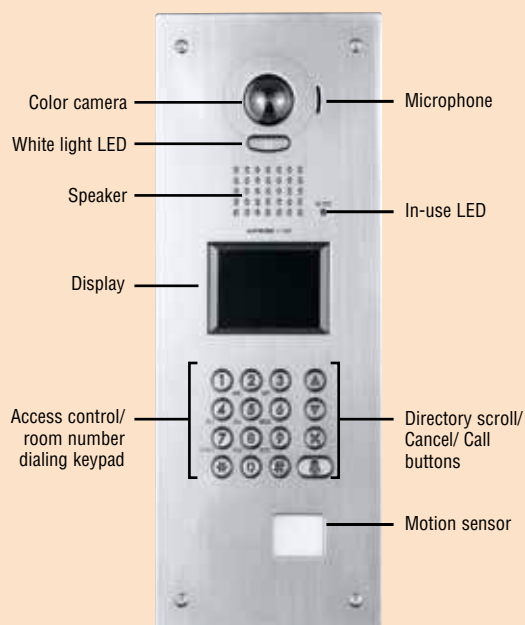
Wiring distance: Entrance station - Expanded Bus & Expanded Video control unit 300m  
 Expanded Video control unit - Video Bus control unit 150m  
 Expanded Bus control unit - Bus control unit 300m  
 Accumulated total Audio wiring distance 2,500m/SUB line

# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Entrance station

### All-in-one type

#### Digital name scrolling



**GT-DM**  
Entrance station with camera with name scroll

### Module type

#### Direct-select call button



#### Audio Module



**GT-DP**  
Audio panel for GT-DA



**GT-DP-L**  
Audio panel for GT-DA-L



**GT-DA**  
Audio module



**GT-DA-L**  
Audio module W / guide display

#### Camera Module



**GT-VP**  
Camera panel



**GT-VA**  
Camera module

#### Access control keypad module



**GT-AC**  
Access control keypad module

#### Option



**GF-AP**  
Address panel



**GT-AD**  
Address module



**GF-BP**  
Blank panel

#### Specifications (GT-DM)

Power source	24V DC, supplied by PS-2420S, PS-2420UL
Video monitor	3.5-inch color LCD
Camera unit	Complementary metal oxide semiconductor (CMOS)
Communication	AUTOMATIC (Hands-free)
Mounting	Flush-mounting
Material	Stainless

#### Specifications (GT-DA,GT-VA)

Wiring	Two single-pair cable common
Type of cable	2-conductor cable solid copper & non-braided, polyethylene insulation, 0.65mm dia.~1.0mm dia.
Mounting	Box and front frame GF-2B, 3B and GT-4B, and GF-2F, 3F and GT-4F
Material	Fire-retardant plastic

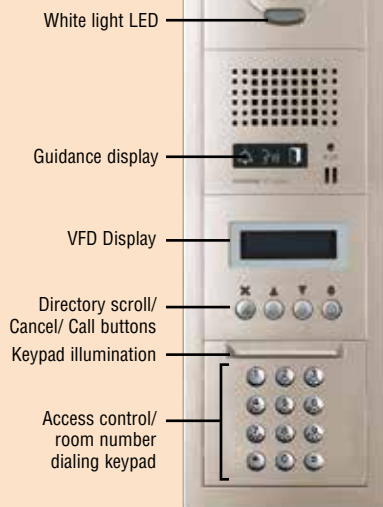
#### Specifications (GT-SW,GT-10K,GT-AD)

Lighting	Yellow LED
Material	Fire-retardant plastic

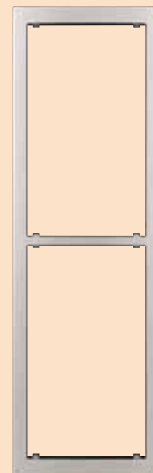
#### Specifications (GT-NS)

Power source	24V DC, supplied by PS-2420S, PS-2420UL
Material	Fire-retardant plastic

## Digital name scrolling



- 170° range wide view camera
- Audio & visual guidance assists the visitor to know the present status and go on to the next step at ease.
- Searches of names and number using the keypad
- Customer programmable welcome messages can also be shown
- 6 languages (English, French, German, Spanish, Dutch & Italian) are available for audio guidance and messages on Guidance display
- White light LED illuminates the visitor automatically in low-light conditions



**GT-4F**  
4-module front frame  
**GF-3F**  
3-module front frame  
**GF-2F**  
2-module front frame



**GT-4B**  
4-module back box  
**GF-3B**  
3-module back box  
**GF-2B**  
2-module back box

## Digital name scrolling module



**GT-NSP-L**  
Display module panel



**GT-NS**  
Digital name scroll display module

## Front frame & back box



**GF-10KP**  
10-key module panel



**GT-10K**  
10-key module

## Call switch Module



**GF-1P**  
1-call panel



**GF-2P**  
2-call panel



**GF-3P**  
3-call panel



**GF-4P**  
4-call panel



**GT-SW**  
Call switch module



**GT-nH**  
Rain hood

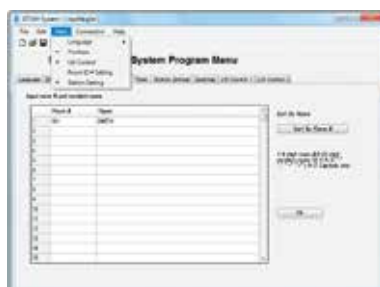


**GT-nHB**  
Hooded surface-mount box

**GF-nBA**  
Surface-mount box

## Easy system setting on a PC

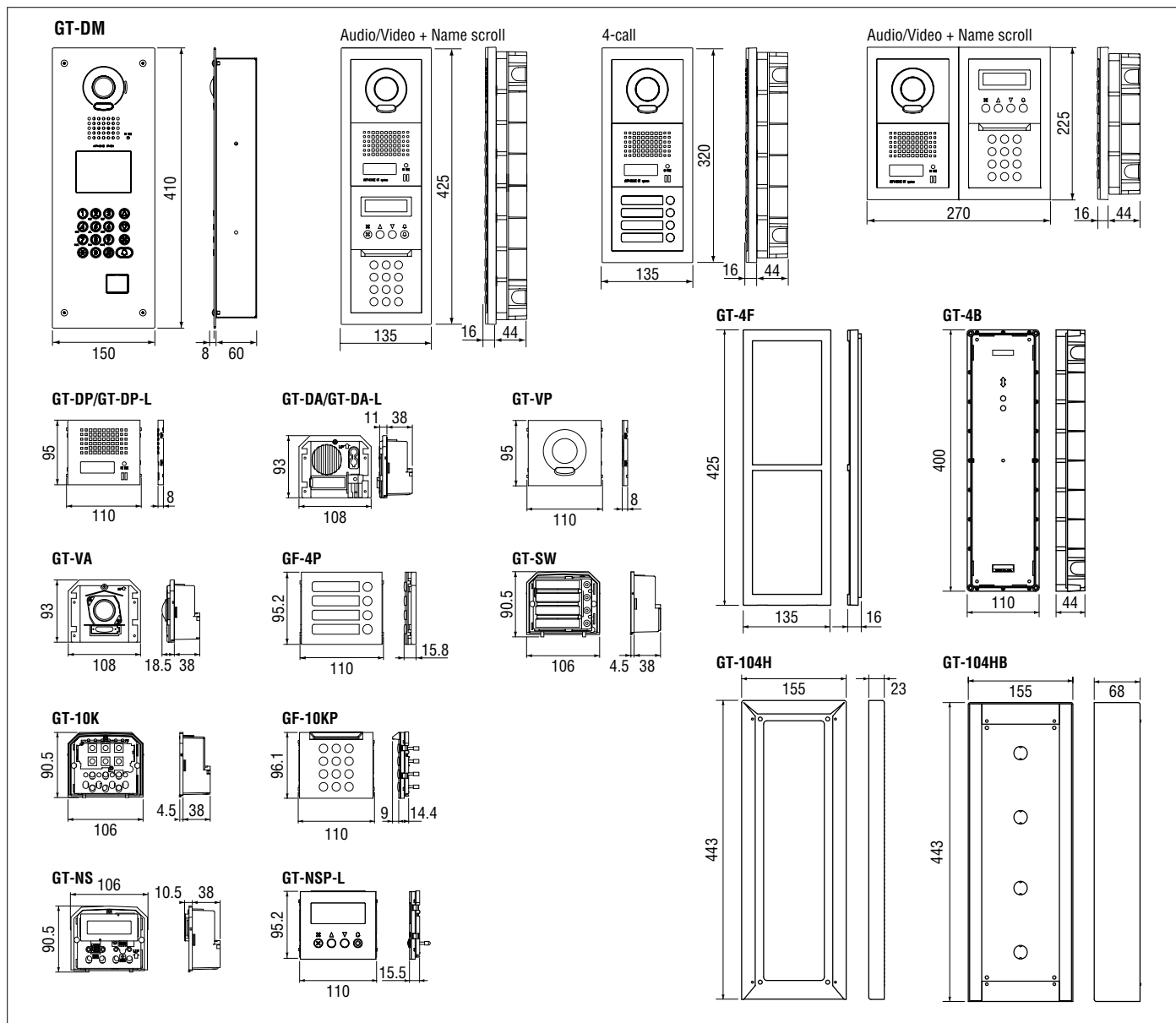
- Settings can be made from a PC by using the Setting Software.
- Connecting the unit and a PC via USB
- Supported OS: Windows XP (SP3 or higher), Windows VISTA (SP2 or higher), Windows 7, Windows 8



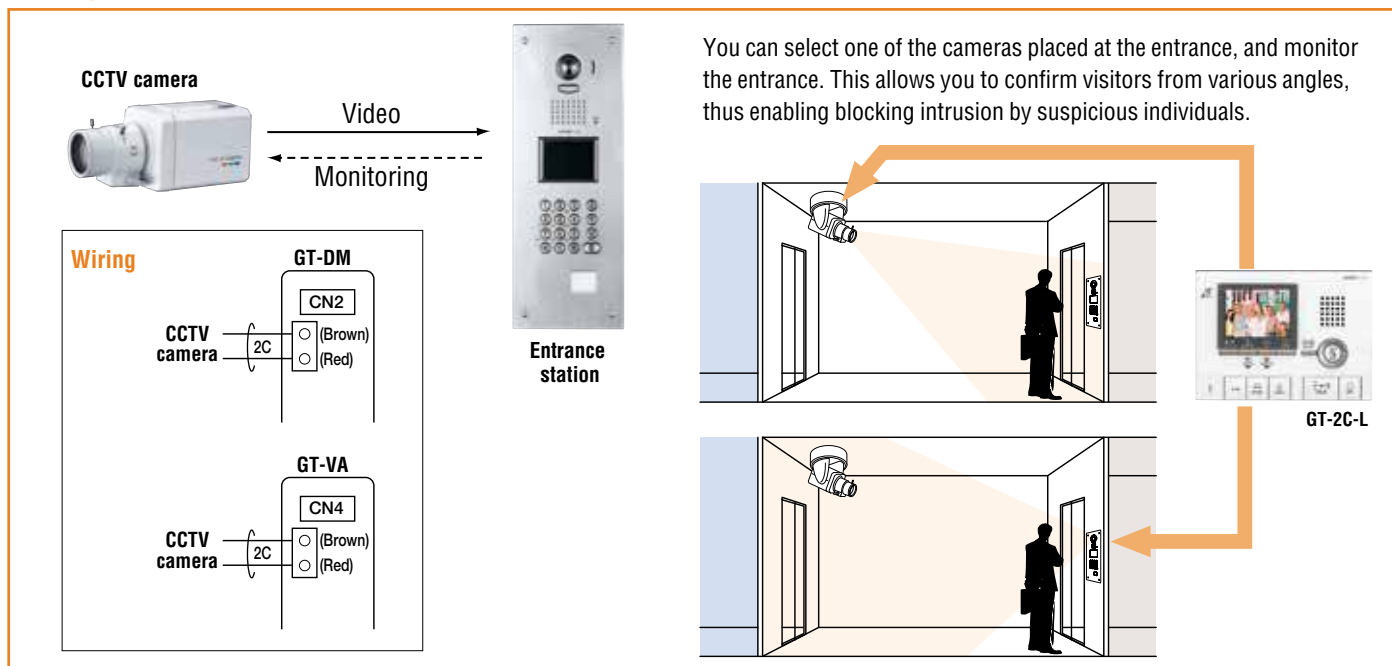


# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Unit dimensions



## Security camera



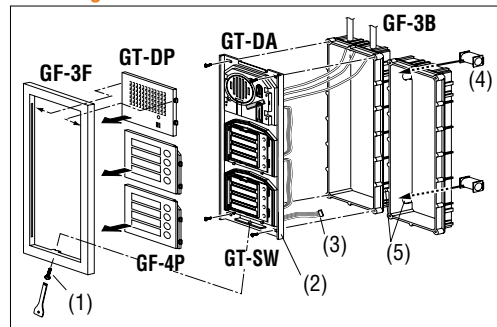


## Entrance station components

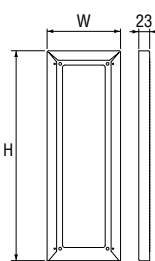
Number of calling button		4.	8.	12.	16.	20.	24.	25.-48.	GT-NS, GT-10K
(1)	GT-VA GT-VP	1 1	1 1	1 1	1 1	1 1	1 1	For more than 7 × GT-SW, install additional power supply & special device required. Contact local ALPHONE distributor	1 1
(2)	GT-DA(-L) GT-DP(-L)	1 1	1 1	1 1	1 1	1 1	1 1		1 1
(3)	GT-SW GF-4P	1 1	2 2	3 3	4 4	5 5	6 6		— —
(4)	GF-3F GF-3B	1 1	— —	2 2	2 2	— —	3 3		— —
(5)	GT-4F GT-4B	— —	1 1	— —	— —	2 2	— —		1 1
(6)	GF-BP GT-AD GF-AP	— — —	— — —	— 1 —	— — —	— 1 —	1 — —		— — —
(7)	GT-NS GT-NSP-L GT-10K GF-10KP	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —		1 1 1 1

(1) Camera (2) Audio (3) Call switch (4) 3-module Front frame (5) 4-module Front frame (6) Option (7) Digital name scroll

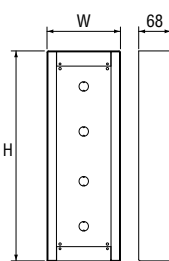
## Mounting



· GT-nH



· GT-nHB

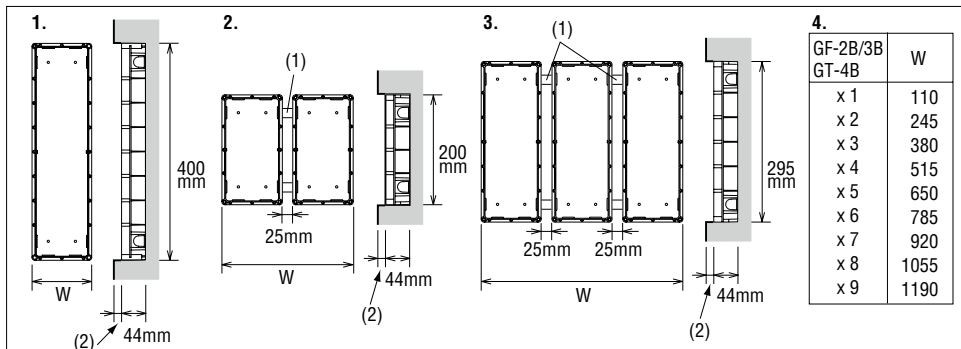


· GF-nBA

		W	61
			45
H	W		
GT-102H/HB	243	155	
GT-202H/HB	243	290	
GT-103H/HB	338	155	
GT-203H/HB	338	290	
GT-303HB	338	425	
GT-104H/HB	443	155	
H	W		
GF-102BA	229	139	
GF-202BA	229	274	
GF-103BA	324	139	
GF-203BA	324	274	

(1) Tamper-proof screw & screwdriver(supplied with GT-BC) (2) Module-mounting bracket(supplied with GF-3F) (3) Internal wiring connector (4) Joint pipe(x2) (5) Cut out openings in advance.

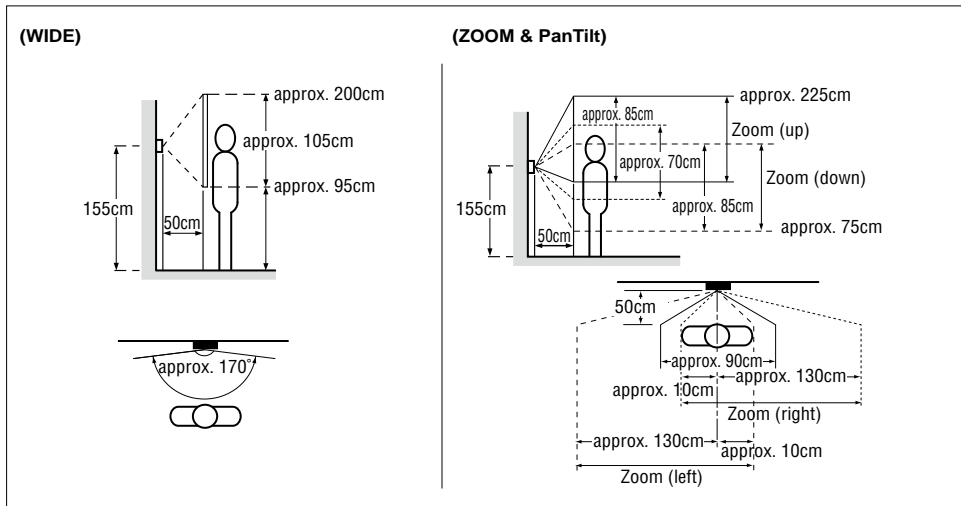
## Back box



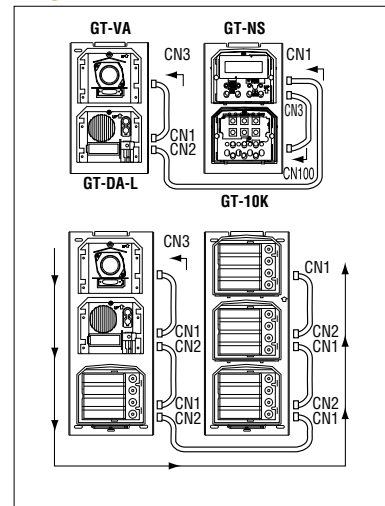
- One 4-module back boxes
- Two 2-module back boxes
- Three 3-module back boxes
- Back box total width (mm)

(1) Joint pipe(x2)  
(2) Do not recess back box more than 15mm.

## Image view area



## Interconnecting Modules with Plug-in Connectors



# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Hands-free color monitor tenant station w/ picture memory

Picture memory



Hearing aid



**GT-2C-L**

Color variation

Gold: GT-2C-L-GD/Silver: GT-2C-L-SL

Black: GT-2C-L-BK

or



**GT-2C**

Color variation

Gold: GT-2C-GD/Silver: GT-2C-SL

Black: GT-2C-BK

### Option

Max. 3 sub master monitor stations (GT-2H-L or GT-2H) can be connected (total of 4 per room)



Hearing aid



**GT-2H(-L)**

Color variation

Gold: GT-2H(-L)-GD

Silver: GT-2H(-L)-SL

Black: GT-2H(-L)-BK

OR

## w/o picture memory



Hearing aid



**GT-1C-L**

Color variation

Gold: GT-1C-L-GD/Silver: GT-1C-L-SL

Black: GT-1C-L-BK

or



**GT-1C**

Color variation

Gold: GT-1C-GD/Silver: GT-1C-SL

Black: GT-1C-BK

### Option

Max. 3 additional stations (\*) can be connected (total of 4 per room)



(\*) Max. 1 additional monitor station can be installed (GT-1C, GT-1C-L or GT-1M-L).

Max. 3 additional audio stations can be installed (GT-1A or GT-1D). If 1 additional monitor is installed, max. 2 additional audio stations can be installed.

### Common items

#### Optional Handset



**GT-HS**

#### Color variation

**GOLD**



**(GT-2C-L-GD)**

**SILVER**



**(GT-2C-L-SL)**

**BLACK**



**(GT-2C-L-BK)**

\*All models of hands-free color video tenant stations are also available in gold, silver and black.

### Features (GT-2C-L, GT-2C)

#### Exclusive functions available for GT-2C-L/GT-2C (In addition to GT-1C(-L))

- Video recording from an entrance station or video door station
- Sensors (commercially available) can be connected for security
- Up to 4 monitor stations can be linked per Tenant
- Individual Video door station/audio door station can be connected.
- Internal call and communication

#### Other basic functions

- Refer to the features for the GT-1C-L/GT-1C.

Items listed in the corresponding section can be used as common basic functions.

### Features (GT-1C-L, GT-1C)

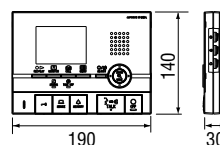
- Zoom/wide and pan & tilt video monitoring function
- 3.5-inch LCD for operation and video monitoring
- Hands-free communication, auto-voice actuation
- Press-to-talk communication is available
- Video image adjusting function
- Monitoring an entrance station or video door station
- Lighting control for a call from entrance station
- Releasing door lock
- Security guard call
- Auto-entry (Doctor call)
- Optional handset for private communication

### Specifications (GT-2C-L, GT-2C, GT-1C-L, GT-1C, GT-2H-L, GT-2H)

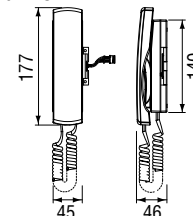
Power source	GT-2C-L, GT-2C: 24V DC, supplied by PS-2420S/UL GT-2H-L, GT-2H: 24V DC, supplied by GT-2C-L, GT-2C GT-1C-L, GT-1C: 24V DC, supplied from Bus control unit, GT-BC & GT-VBC
Video monitor	3.5-inch TFT color LCD
Wiring	Two Single-pair cables common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

### Unit dimensions

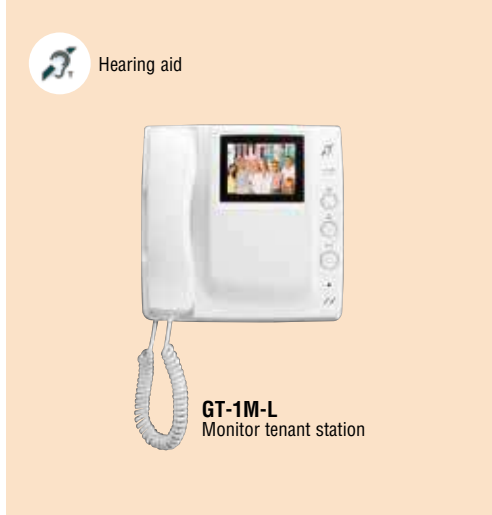
GT-2C-L, GT-2C, GT-1C-L, GT-1C,  
GT-2H-L, GT-2H



GT-HS



## Color monitor tenant station



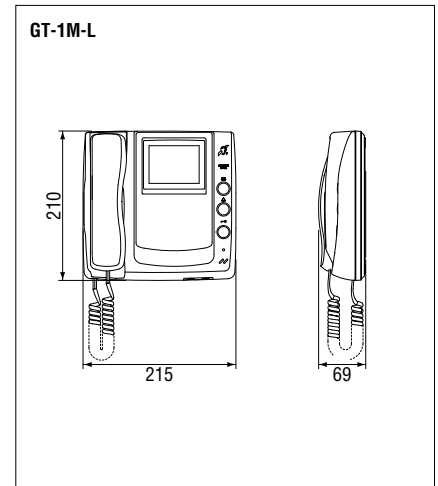
### Features (GT-1M-L)

- 3.5-inch LCD for operation and video monitoring
- Lighting control for a call from entrance station
- Monitoring an entrance station
- Releasing door lock
- Security guard call
- Auto-entry (Doctor call)

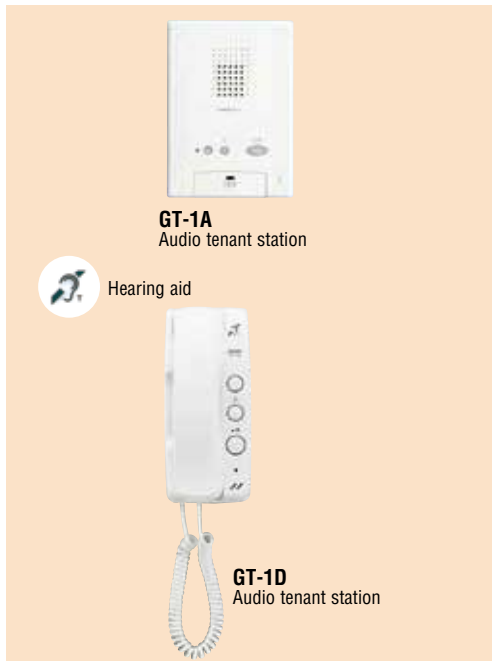
### Specifications (GT-1M-L)

Power source	24V DC, supplied from Bus control unit, GT-BC & GT-VBC
Video monitor	3.5-inch color LCD
Wiring	Two Single-pair cables common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

### Unit dimensions



## Audio tenant station



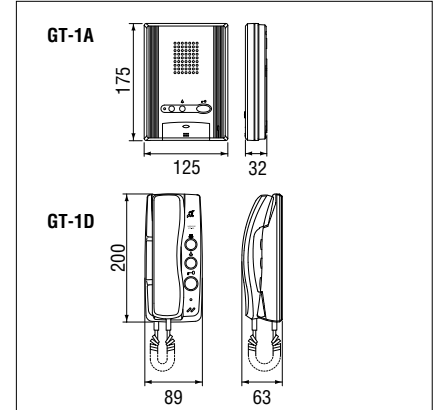
### Features (GT-1A, GT-1D)

- Lighting control for a call from entrance station
- Monitoring an entrance station
- Releasing door lock
- Auto-entry (Doctor call)

### Specifications (GT-1A)

Power source	24V DC, supplied from Bus control units GT-BC
Wiring	Single-pair cable common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

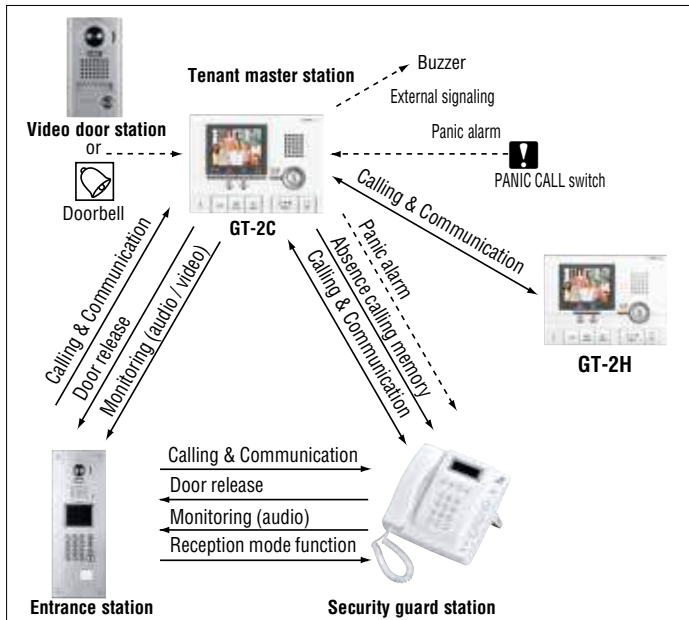
### Unit dimensions



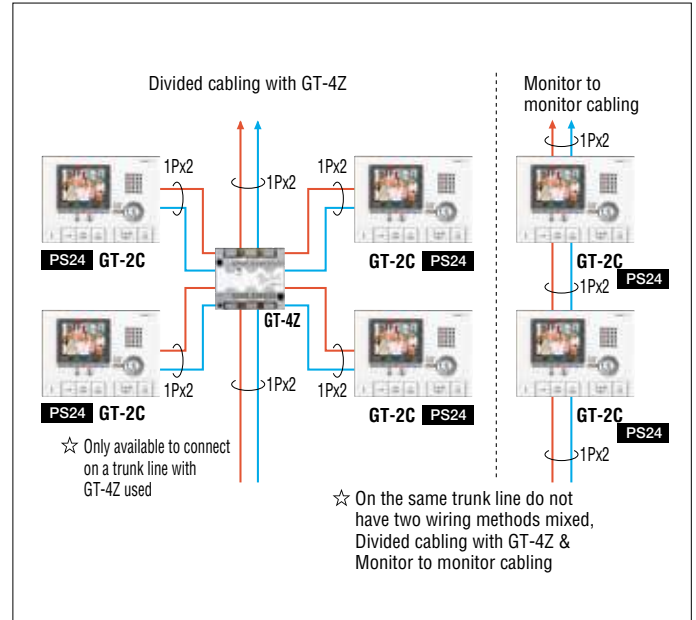
### Specifications (GT-1D)

Power source	24V DC, supplied from Bus control unit GT-BC
Wiring	Single-pair cable common
Mounting	Wall-mounting only
Material	Fire-retardant plastic

## Functions



## Trunk line



# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Video door station



**JK-DA**  
Wide and Zoom & PanTilt  
video door station,  
surface mount



**JK-DV**  
Wide and Zoom & PanTilt  
Vandal resistant video  
door station, surface mount



**JK-DVF**  
Wide and Zoom & PanTilt  
Vandal resistant video  
door station, flush mount

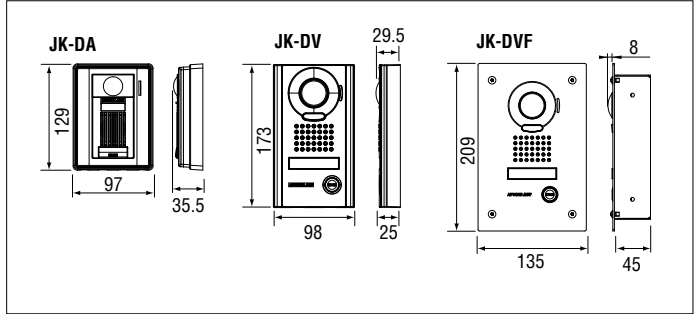
### Features

- 170°range wide view camera
- Directory card with backlight (JK-DV, JK-DVF)
- White light LED illuminates the visitor automatically in low-light conditions

### Specifications (JK-DA, JK-DV, JK-DVF)

Power source	Supplied from Tenant station
Type of communication	Open voice hands-free communication
Camera	1/4-inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: 170° (approx.)(Horizontal)
Mounting	JK-DA, JK-DV: Surface wall mount (Directly to wall or electrical box) JK-DVF: Flush mount
Material	JK-DA: Fire-retardant PC + ABS plastic JK-DV: Zinc diecasting JK-DVF: Front panel Stainless steel

### Unit dimensions



### Image view area

Refer to the descriptions for the image view area.  
→ P.10

## Door station

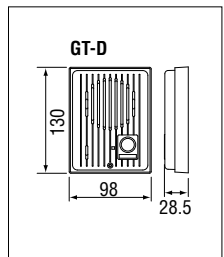


**GT-D**  
Audio only door  
station

### Specifications

Power source	Supplied from Tenant station
Type of Communication	Open voice hands-free communication
Mounting	Surface wall mount
Material	Fire-retardant PC + ABS plastic

### Unit dimensions



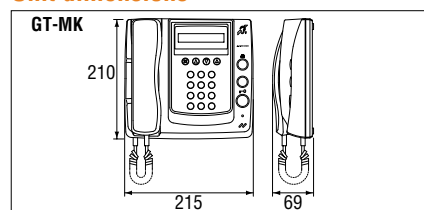
## Security guard station



### Features

- Call to tenant station
- Digital display shows name of tenant & number
- Entrance station call-ins made to the indoor unit can be automatically forwarded to the security guard station.
- Absence call-in memory stored with Callback
- Option
  - Doorbell at door with different call tone
  - User-optional device can be controlled with SERVICE button, such as -light on and off at entry way to elevator
- Receive a Panic call from tenant station

### Unit dimensions



### Specifications (GT-MK)

Power source	24V DC, supplied by PS-2420S, 2420UL
VFD display	Max. 16 letters for names; English (Up to 32 characters can be registered.), French, German, Spanish, Dutch & Italian
Wiring	2 single-pair cables
Type of cable	2-conductor cable solid copper & non-braided, polyethylene insulation, 0.65mm dia.~1.0mm dia.
Mounting	Wall-mounting or Desk-top mounting on GFW-S
Material	Fire-retardant plastic

## Control units



**GT-BC**  
Bus control unit

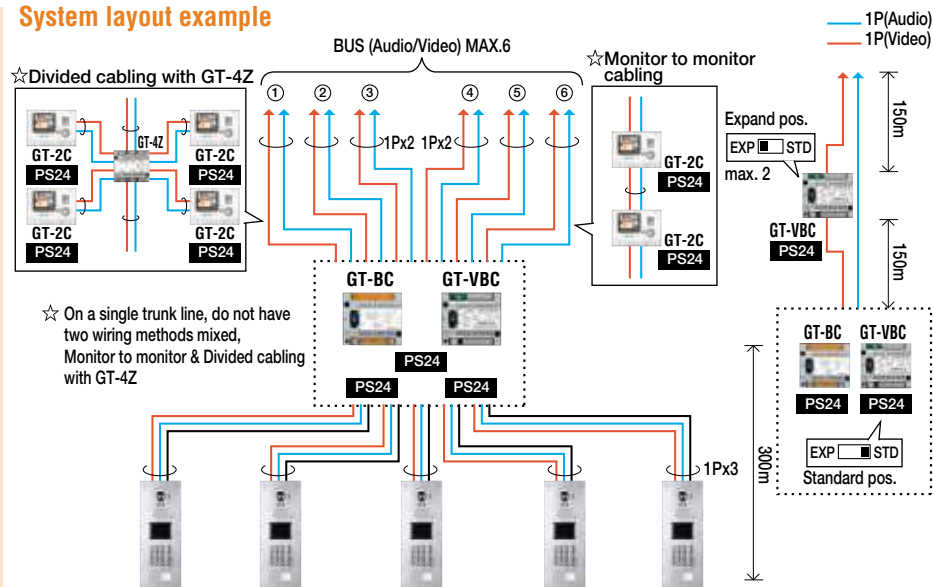


**GT-VBC**  
Video Bus control unit,  
expander video control



**GT-4Z**  
Video 4-zone divider

### System layout example



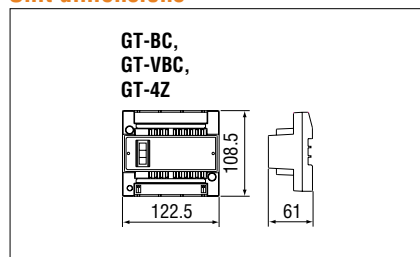
### Wire type

AIPHONE approved product wire: AE7090220B, AE7090220G AE7090210B, AE7090210G or 2-conductor cables solid copper & non-braided, polyethylene insulation, 0.65mm ~ 1.0mm dia.

### Wiring distance

	Distance (Diameter of wires)
GT-BC, GT-VBC to Farthest Entrance station	300m(0.8mm)
GT-BC, GT-VBC to Farthest Video tenant station	150m(0.8mm) Expandable 150m with additional GT-VBC & Power supply
GT-BC, GT-VBC to Farthest Audio tenant station	300m(0.8mm)
GT-BC, GT-VBC to each Power supply	5m(0.8mm)
Accumulated Audio lines (R1, R2) Total wiring distance	2,500m(0.8mm)

### Unit dimensions



### Specifications (GT-BC, GT-VBC)

Power source	24V DC, supplied by PS-2420S, 2420UL
Consumption	900mA.
Wiring	Single-pair cable common
Housing	Fire-retardant plastic

### Specifications (GT-4Z)

Wiring	Two Single-pair cables common
Material	Fire-retardant plastic



# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Expanded control units



**GT-BCX**  
Expanded Bus control unit

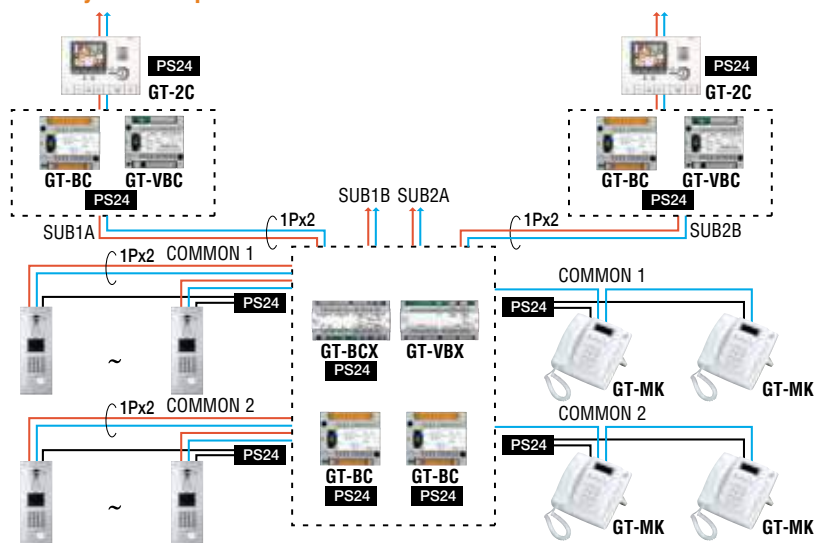


**GT-VBX**  
Expanded video control unit

### Features

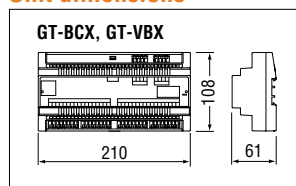
- Expandable to max. 500 Tenant stations, 16 Entrance stations, and 4 Security guard stations

### System layout example



- COMMON trunk line: Requires one each of GT-BC & Power supply
- COMMON trunk line: Max. 8 Entrance stations & 2 Security guard stations
- SUB COMMON trunk line: Max. 125 Tenant stations

### Unit dimensions



### Specifications (GT-BCX, GT-VBX)

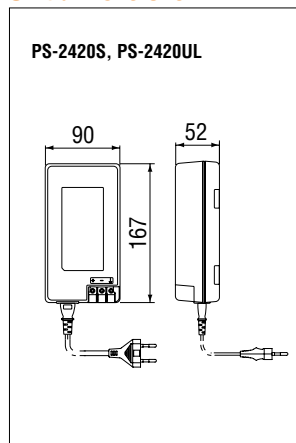
Power source	GT-BCX: 24V DC, supplied by PS-2420S or 2420UL. GT-VBX: Supplied from GT-BCX
Wiring	Single-pair cable common
Material	Fire-retardant plastic

## Power supply



**PS-2420S**  
**PS-2420UL**

### Unit dimensions



### Specifications (PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz 60W/100-125VA
Output voltage	24V DC, 2A

## Option



**GT-RY**  
External signaling  
relay entrance light,  
external buzzer



**W-DIN11**  
DIN mounting rail  
for GT-BC, GT-VBC, GT-4Z



**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99



**AE7090220B AE7090220G**  
**AE7090210B AE7090210G**  
AIPHONE approved product wire  
→ P.104

## GT Lift control adaptor



**GTW-LC**  
Lift control adaptor

## Features

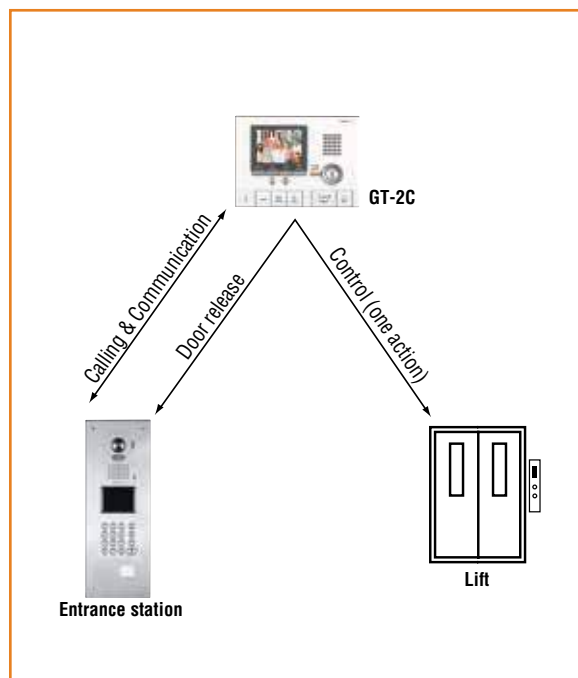
- Lift is controllable from tenant station while communicating with entrance station.  
When door release button is pressed, electric door strike is activated and simultaneously output signal is transmitted to the lift controller or the access controller. The access is authorised only to the floor of communicated tenant station.

- Selectable dry contact: Normally Open or Normally Closed

- System set up data is programmable on your PC

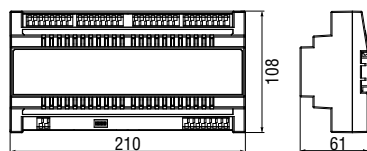
\* GT-BCX is required to use GTW-LC.

## Functions



## Unit dimensions

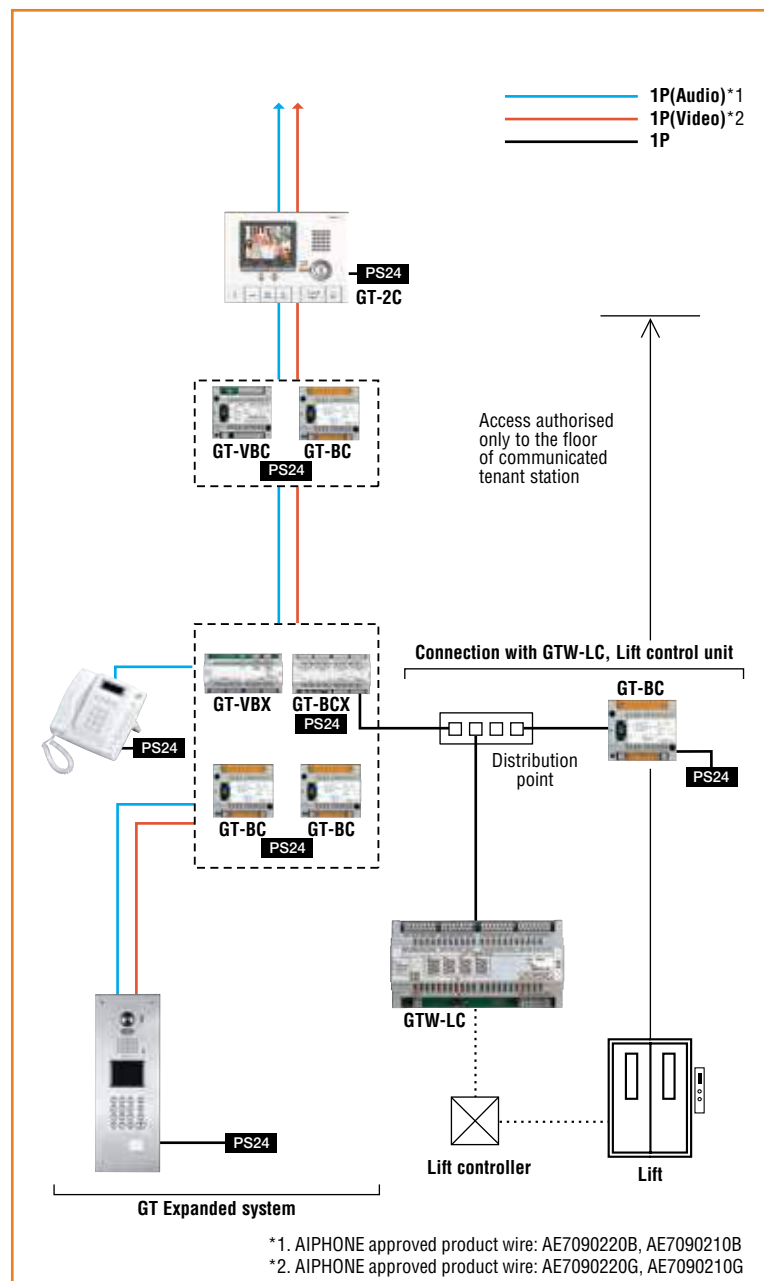
**GTW-LC**



## Specifications

Power source	Supplied by GT-BC
Relay	Output 20
	Contact rating 24V AC/DC, 0.5A
	N/O or N/C dry contact
Operating time	From 1 to 600 seconds
Wiring	Single-pair cable
Material	Fire-retardant plastic

## Cabling



PS24 : PS-2420S, 2420UL

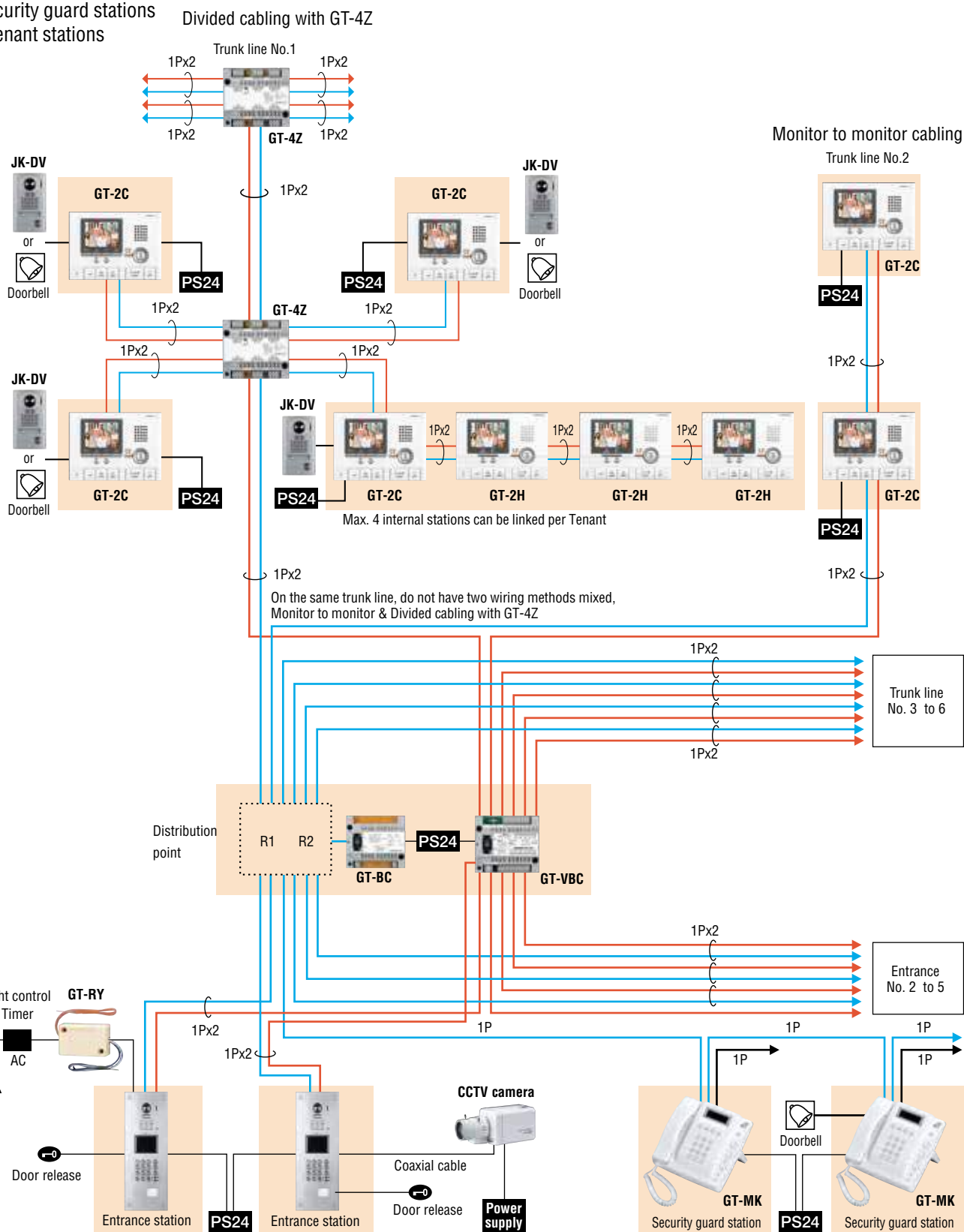
# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Cabling

### Standard system

Capacity  
5 Entrance stations  
2 Security guard stations  
48 Tenant stations

1P(Audio)\*1  
1P(Video)\*2  
1P



Cable: 1P x 2, 2-conductor cable solid copper & non-braided, polyethylene insulation









# Hands-Free Color Video Multi-tenant Building System with Recording, Zoom & PanTilt

## Compatibility with the existing system

The GT system follows the GH trunk line. Both systems can be mixed for call and communication performance, however the use of some functions are restricted. Some functions are enabled on a single station, and some depends on the system.

### Main functions that are enabled on a single station

<b>GT-2C-L, GT-2C</b>  <ul style="list-style-type: none"> <li>• Recording function</li> <li>• 3 add-on master stations</li> <li>• Individual door station</li> <li>• Selectable call-in tones (5 tones)</li> <li>• Security or general purpose call</li> </ul>	<b>GT-1C-L, GT-1C</b>  <ul style="list-style-type: none"> <li>• Selectable call-in tones (2 tones)</li> </ul>
<b>GT-1M-L</b>  <ul style="list-style-type: none"> <li>• Handset T-mode communication</li> </ul>	<b>GT-1D</b>  <ul style="list-style-type: none"> <li>• Handset T-mode communication</li> </ul>
<b>New entrance station</b>  <ul style="list-style-type: none"> <li>• Audio guidance</li> <li>• Room number search in numerical order</li> <li>• Night illumination normally-off</li> <li>• The external door release button</li> </ul>	<b>GT-MK</b>  <ul style="list-style-type: none"> <li>• Handset T-mode communication</li> <li>• External output setting</li> <li>• Call-restricting function</li> <li>• Room number search in numerical order</li> </ul>

### Main functions that depend on the system and the old GH and new GT system compatibility list

Existing GH and new GT system compatibility list	The existing GH entrance stations and the new GT system	The existing GH security guard stations and the new GT system	The existing GH tenant stations and the new GT system	The new GT entrance stations and the existing GH system	The new GT security guard stations and the existing GH system	The new GT tenant stations and the existing GH system
Zoom/wide and pan & tilt	—	✓	—	—	—	—
Video image adjusting function for viewability	—	✓	—	—	—	—
Calling a security guard station individually (that has the recording function only)	✓	✓	—	—	—	✓
Absence call-in records from the security guard station (that has the recording function only)	✓	—	—	—	—	—
Releasing the door while being called-in	—	✓	—	—	—	—
Confirmation sound and LED indication at link setting	—	—	—	—	—	—
Switching the security camera	—	✓	✓	✓	—	—

\*Transferring link setting information from the new system to the old system is not possible.



# INTEGRATED SECURITY & COMMUNICATION SYSTEM

Innovative network-based security management systems. Manage not only your door entry security, but also internal communication through one system via a local network or the internet to dramatically improve security efficiency.

Find Out the Solutions for Your Security Needs.



## Large Corporations

Protect staff by giving them the advantage to safely confirm the identity of visitors and vendors before granting access into the building.



## Airports

Communications between several departments at separated places can be smoothly realized.



## Schools

Broadcast messages throughout the school or to a particular classroom with the choice of either a hands-free or handset reply.



## Shopping Mall

Internal communication between tenants can be easily done. It contributes to prompt action in emergency conditions, such as quick call to a disaster control center.



## Hospitals

Increase staff efficiency by controlling various entrances from a central location. Easily transfer responsibilities to another location or individual.



## Parking Garages

Assist visitors and monitor multiple garage entrances from remote locations during or after hours.

## Lineup

### IP Network Audio - Video Intercom System IX series



P33~

### Security IP Video Intercom System IS series



P43~

### Integratable Audio / Video Security AX series



P55~

# IP Network Audio - Video Intercom System

**IXSystem** **NEW**

## Greater flexibility, covering more applications.

The IX System – getting the job done for a wide range of business applications, while achieving connection and integration with third-party IP systems.

### Full IP-network compatibility



### Security enhanced Integration



Network Camera



Access Control



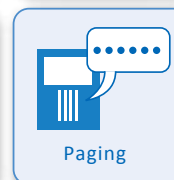
VMS/NVR



Card Reader



Emergency Call



Paging

INTEGRATED SECURITY & COMMUNICATION SYSTEM

## Full IP-network compatibility, simple installation, and greater flexibility.

Enables to communicate between an infinite number of door/master stations with no distance limitations. Helps save money as no server is required to build a system.

### Unlimited number of devices

IP addresses for up to 500 devices can be registered for each master station – plenty of coverage even in large-scale applications.



### No server configuration results in space savings, reduced installation time, and lower cost

Simply connect the units to Power over Ethernet (PoE) switches. This means no need for a dedicated server, with the additional benefit of eliminating the risk of system downtime due to server malfunction.



### No wiring-distance limitations

LAN and VPN connections enable implementation over extensive areas and between remote locations. This system allows for closed circuit communication and central control in large facilities, between corporate and satellite offices, and any type of application with multiple locations.

### PoE design

Electrical power is supplied over the LAN port connection.



## Integration with other IP-based security systems

Using an existing IP infrastructure, IX System can be integrated with Video Management System, Access Control System, and Network Camera System, etc. Combining security components saves time and resources during set-up and training.

### Compatible with third-party systems

This system is compatible with the ONVIF Profile S-established interface specifications for network camera equipment. This allows the intercom to be used with third-party systems, enabling interoperability of integrated IP systems. The open API allows for configuring IP systems with greater flexibility.

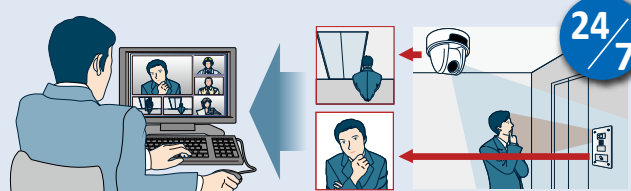


### Examples of Integration Use with a Video Management System and Access Control

Interconnection with an ONVIF Profile S-compatible network camera system lets you transform door station into surveillance cameras for facial identification of visitors. Integrate with video management systems for 24/7 recording. Integration with third-party access control is also possible.

\*VMS (video management system): XProtect® by Milestone Systems

\*Access control: OnGuard® by Lenel



Clearly identify visitors with both the intercom and Network camera.



## Custom settings for a variety of features.

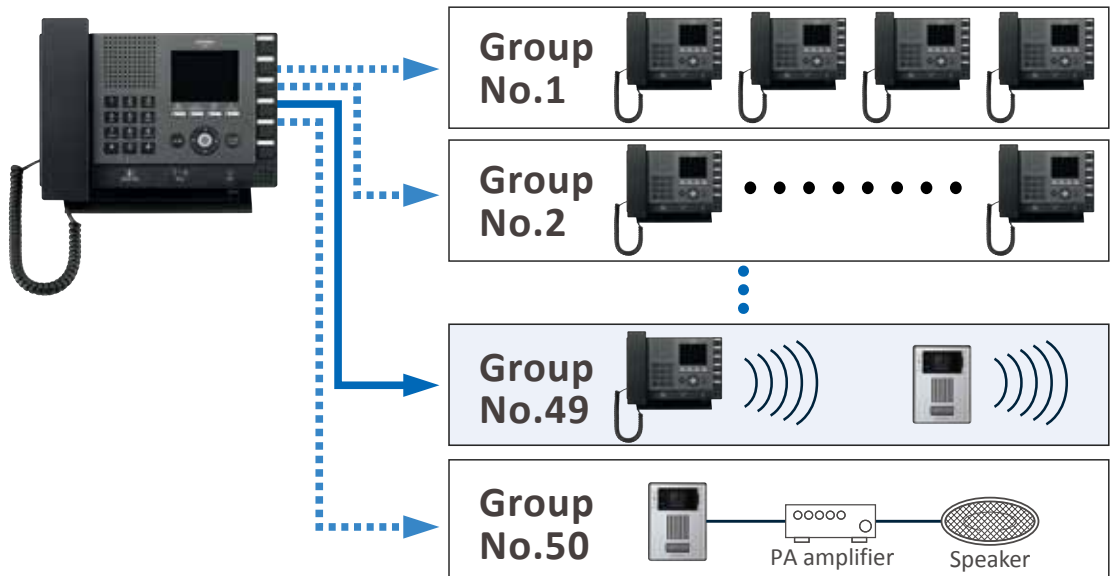
### Call Queuing

Master stations can receive up to 20 incoming calls simultaneously. Caller information can be displayed on a call queue list, making it possible to respond selectively to high-priority calls.



### Page to all stations or individual groups

Page to all stations and page to preset specific groups is possible. A third-party paging amplifier can be connected for additional coverage.

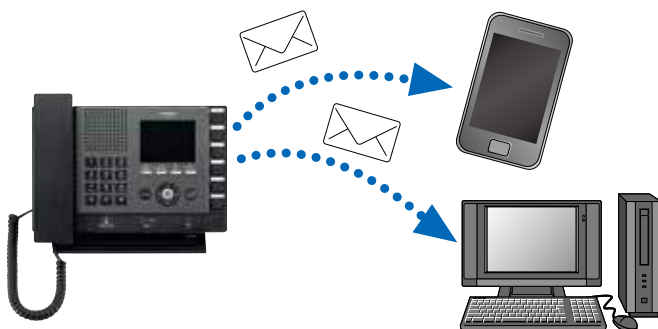


### Unicast / Multicast

According to an infrastructure, there is a choice of sending data via Unicast or Multicast. Paging to all stations can be done using Multicast, and for Unicast communication, paging up to 50 stations is possible.

### Send E-mail

When master stations are called, IX System can send an E-mail attached with the visitor's picture up to 3 E-mail addresses. Error in the system and health check report can be also sent via E-mail.



### Customize with prerecorded messages

Create and import custom audio files for use as unique voice messages. For visitors at door stations, voice messages let them know that door is open.

Door is open



For security guards/receptions at master stations, voice messages help them to identify incoming calls instantly.

Call from customer entry point



### Notification of call and communication status

Indicator lamps and sounds or voice messages provide notification of call and communication status for security and peace of mind.

#### Call in Progress

The Call indicator flash in orange.

#### Communication in Progress

The Communication indicator flash in green.



## A wide array of call transfer features

The system offers an array of call transfer features that can be set to meet the application.

### Manual transfer

A call from a door station can be placed on hold and transferred to another master station manually by the user.



### Delay transfer

If no response occurs within a set interval, call is automatically transferred to a pre-programmed master station.



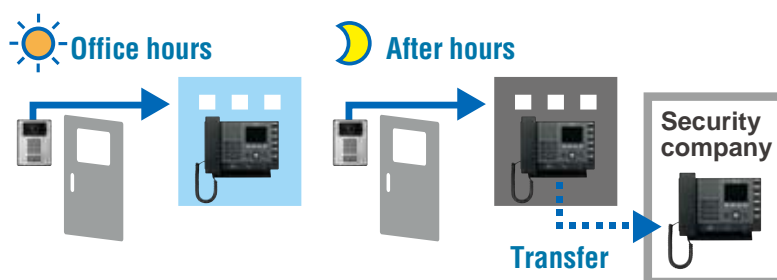
### Absent transfer

Call is automatically transferred to a different master station immediately.



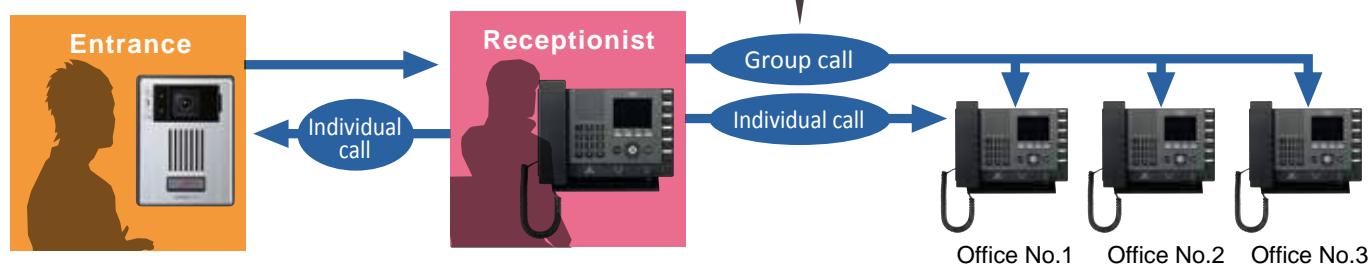
### Schedule transfer

Call is automatically transferred to a preset master station during scheduled times, such as after normal business hours.



## Usage-specific individual calls and simultaneous calls to multiple devices

Door station can call up to 20 master stations simultaneously. Master station can call up to 50 other master stations in a group simultaneously.





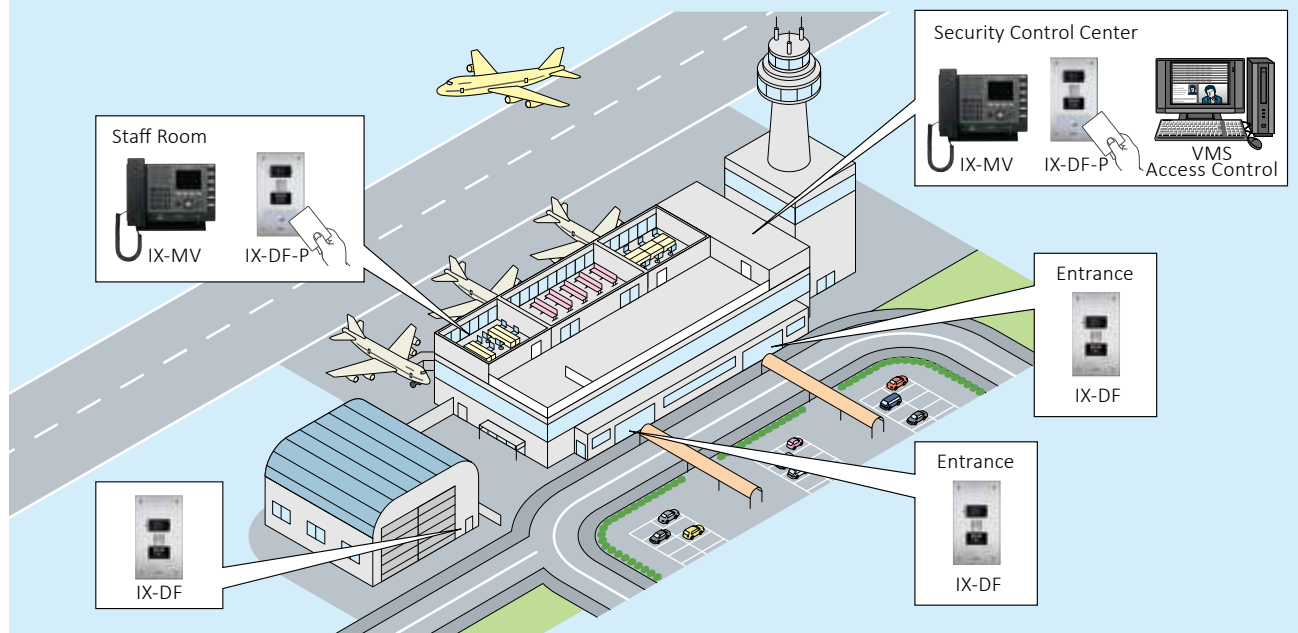
# IP Network Audio - Video Intercom System

## Examples of Popular Applications

### Airports

All-in-one system for Internal communication, Access Control for restricted area, and Video surveillance.

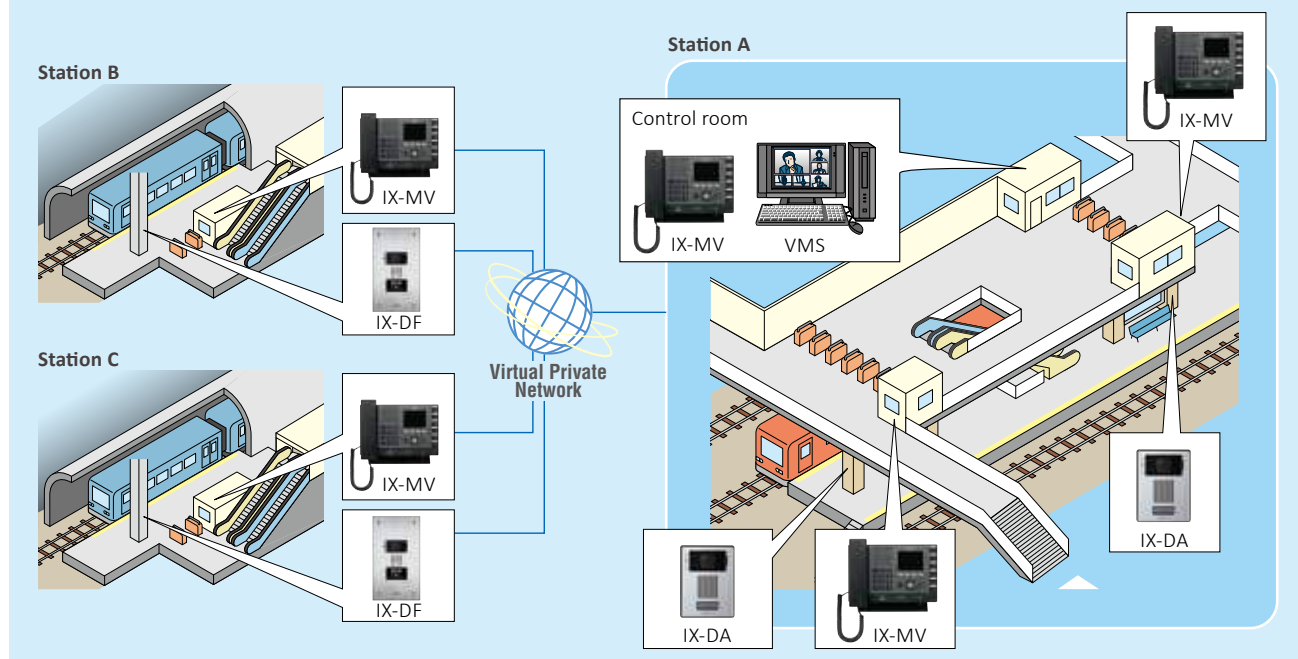
Employees can communicate with each other efficiently and effectively. Access at public entrances can be controlled with facial identification. Integration with access control is also possible.



### Railways

All-in-one system for Help points, Communication between distant stations, and Video surveillance.

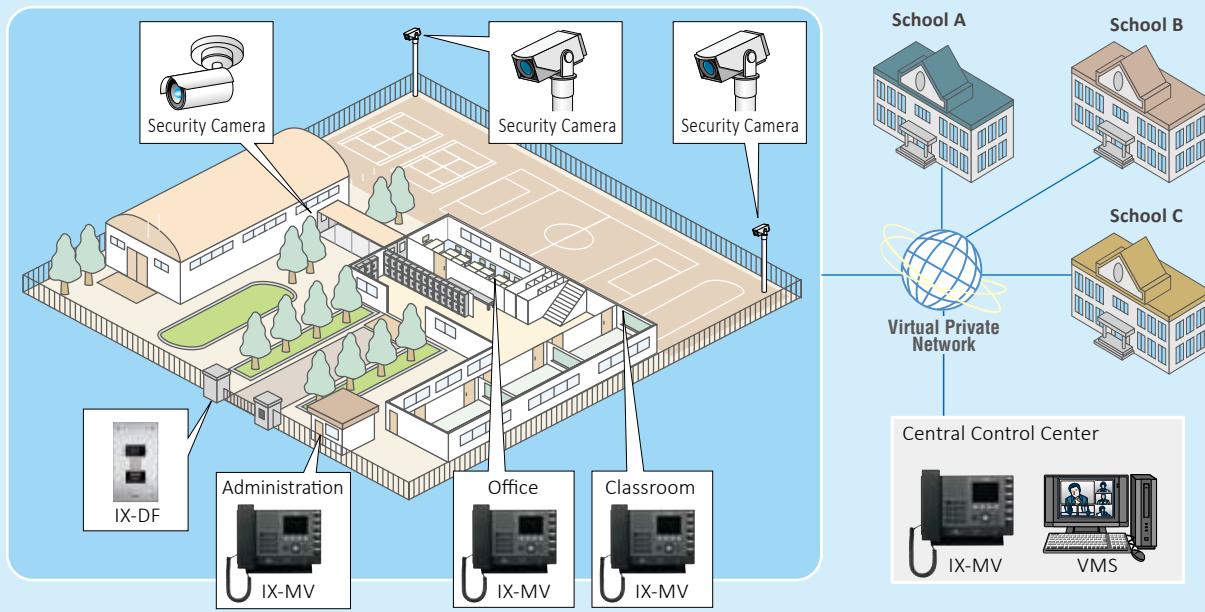
Response can be made to calls and queries from ticket machines, ticket gates, and platforms with video monitoring. Communication between distant stations is also possible.



## Schools

All-in-one system for Door Entry management, Call transfer for after hours, and Emergency paging.

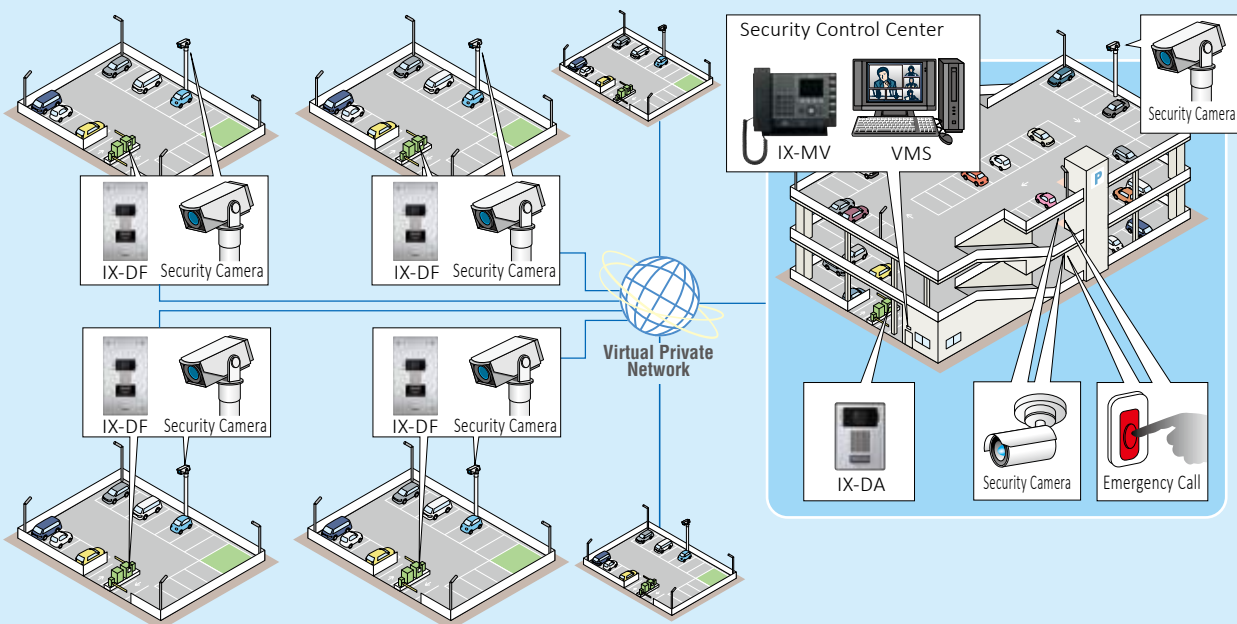
Management of entry and exit points integrated with access control can be accomplished. The system can also be used to enable teachers and staff members to easily communicate with one another. After hours control for schools within the district can be performed at a central control site.



## Parking facilities

All-in-one system for Emergency call, Remote control of distant parkings, and Video surveillance.

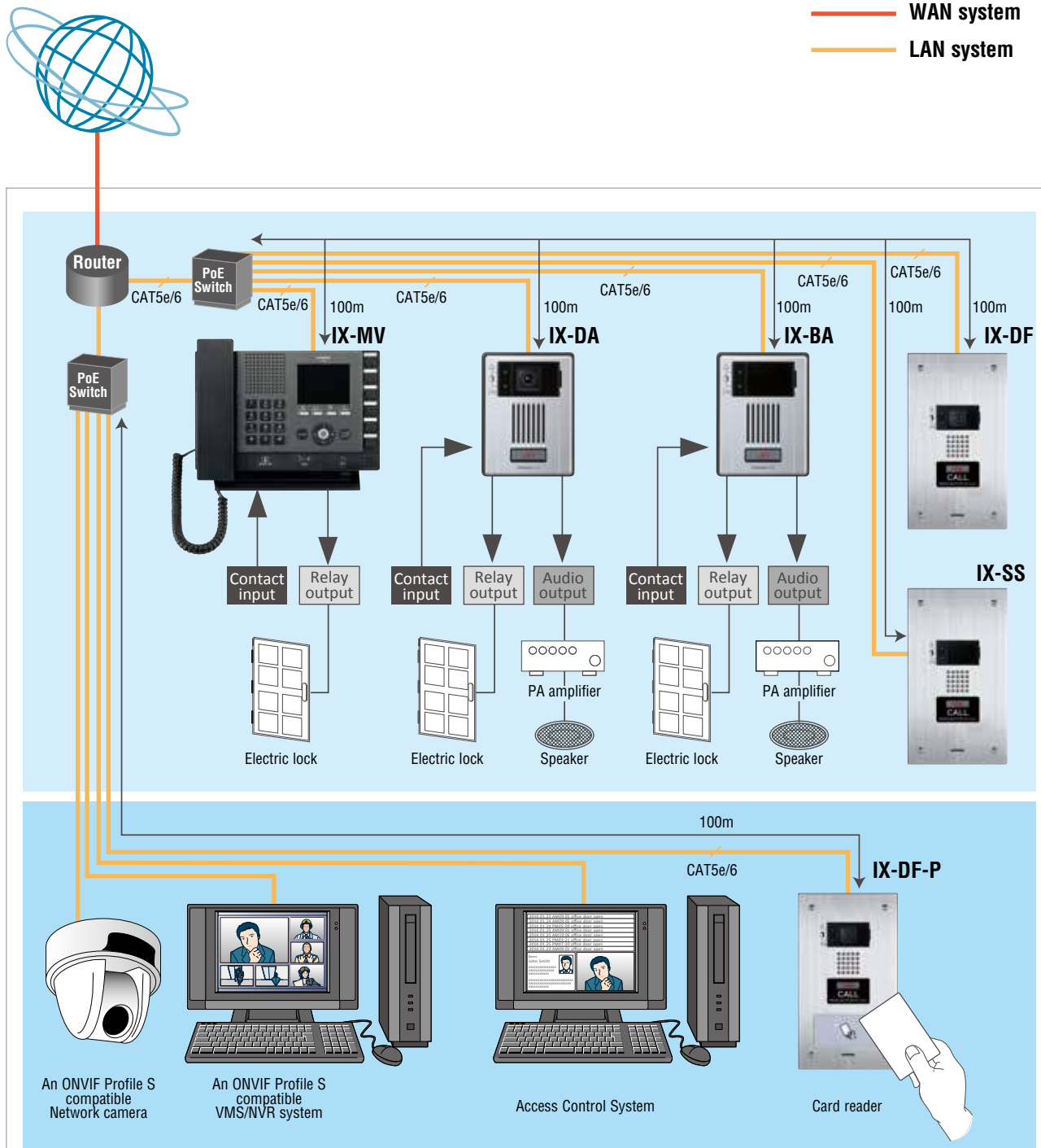
Audio communication and video identification allows for immediate where assistance is needed. Crime prevention can be enhanced further through simultaneous installation of network cameras.



# IP Network Audio - Video Intercom System

## System Configuration

### Virtual Private Network



### Number of station registrations in address book

Product number	Product name	Number of station registrations in address book
<b>IX-MV</b>	Master Station	500 stations
<b>IX-DA, IX-DF, IX-DF-PI<sup>*1</sup>, IX-DF-P<sup>*1</sup></b>	Video Door Station	20 stations <sup>*2</sup>
<b>IX-BA, IX-SS</b>	Audio Only Door Station	20 stations <sup>*2</sup>

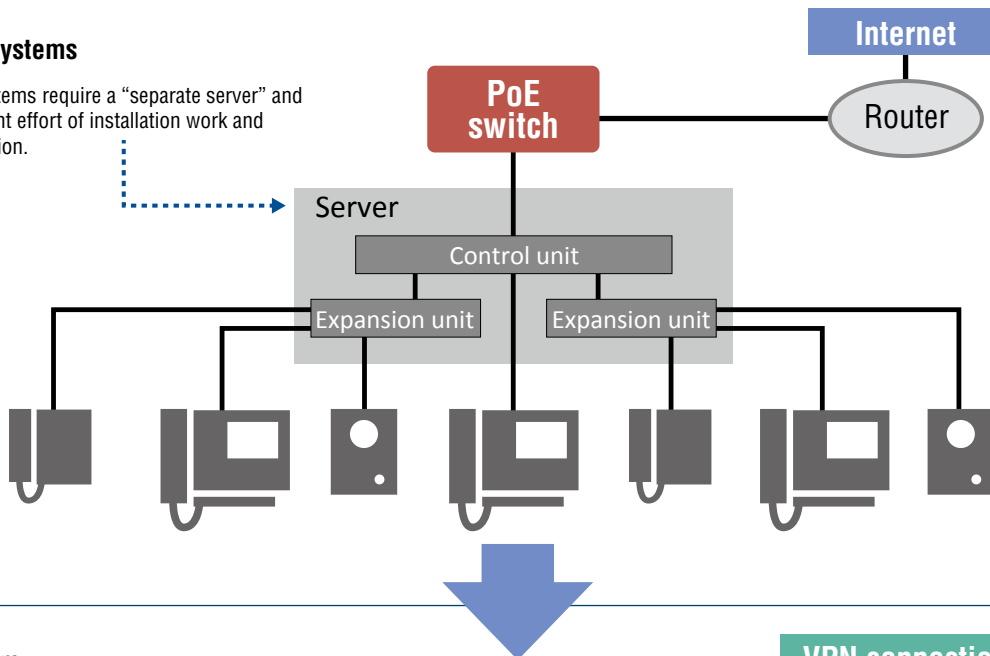
<sup>\*1</sup> Card Reader is not included.

<sup>\*2</sup> Only Master Stations can be registered (Max. 20).

## Serverless Configuration Achieves Savings in Space and Installation Work, and Lower Costs

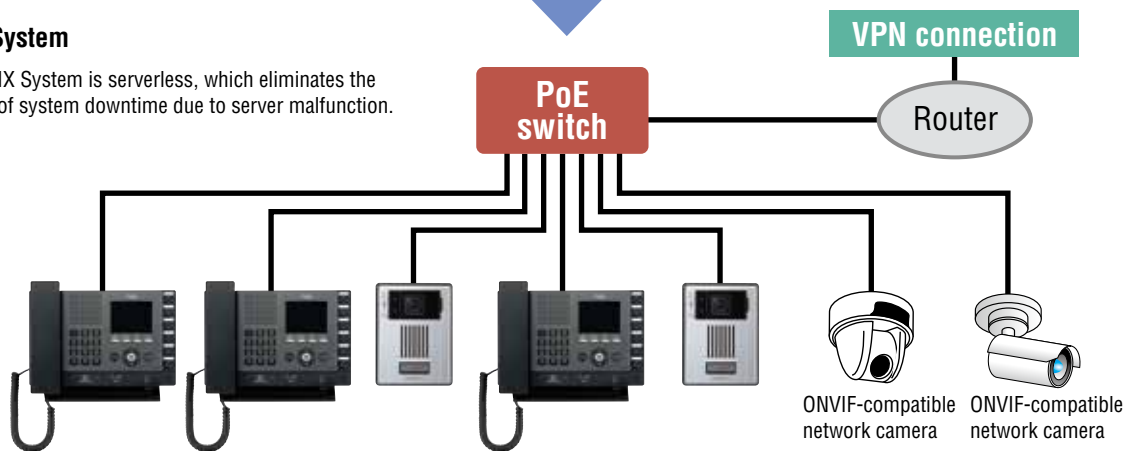
### Typical Systems

Typical systems require a "separate server" and the attendant effort of installation work and administration.



### IX System

The IX System is serverless, which eliminates the risk of system downtime due to server malfunction.



### A Guide to Terms

#### ONVIF (Open Network Video Interface Forum)

The interface specifications established by ONVIF provide standards that enable exchange of live video and audio as well as control information and the like by surveillance cameras and other network video devices feed, even among products from different manufacturers.

#### VMS (Video Management Software [or "System"])

This refers to video management software using an IP network. Servers and cameras of any make can be installed, enabling configuration of systems matched to user needs.

#### NVR (Network Video Recorder)

This is a device that records video feed from a network camera over an IP network.

#### Open API

This refers to a publicly disclosed set of commands and functions that can be used in programming. It enables control of intercom functioning by user programs, and also makes it possible for user programs to acquire information from intercoms.

# IP Network Audio - Video Intercom System

## Master station



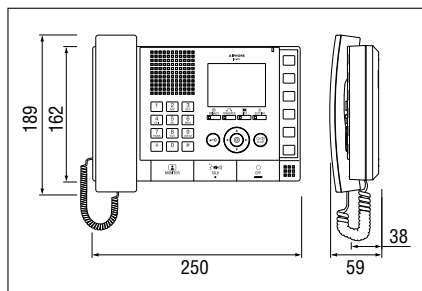
### Features

- Directly connectable to an IP network
- 3.5-inch display for operation and video monitoring
- A variety of display modes designed for assisting your operation
- Hands-free, push-to-talk or handset audio communication
- Direct voice call from master station to another station
- System settings are possible on the connected PC
- Various setting items for customizing your master station
- Video image adjusting function
- Call or communication transferring to another master station
- Paging to a group or all stations
- Monitoring a single station
- Power supply by the PoE

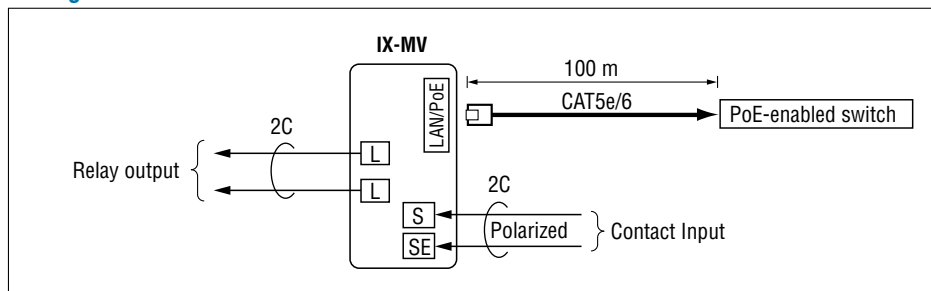
### Specifications (IX-MV)

Power source	Power-over-Ethernet (IEEE 802.3af Class 0)
Communication	Hands-free/Push-to-talk Handset: Full-duplex/Push-to-talk
Monitor	3.5-inch color LCD monitor
Mounting	Desktop use (with or without desktop stand) or wall-mounting
Material	Flame resisting ABS resin

### Unit dimensions



### Wiring



## Audio door station



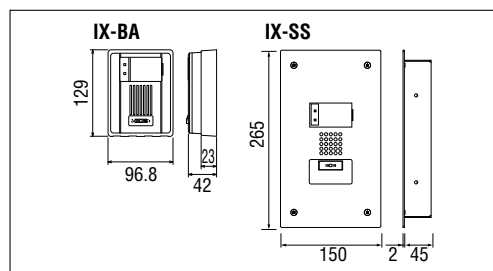
### Features

- Directly connectable to an IP network
- Door release output
- LED indicator active while calling, talking, and releasing the door
- System settings are possible on the connected PC
- Calling up to 20 preprogrammed master stations all together
- Power supply by the PoE

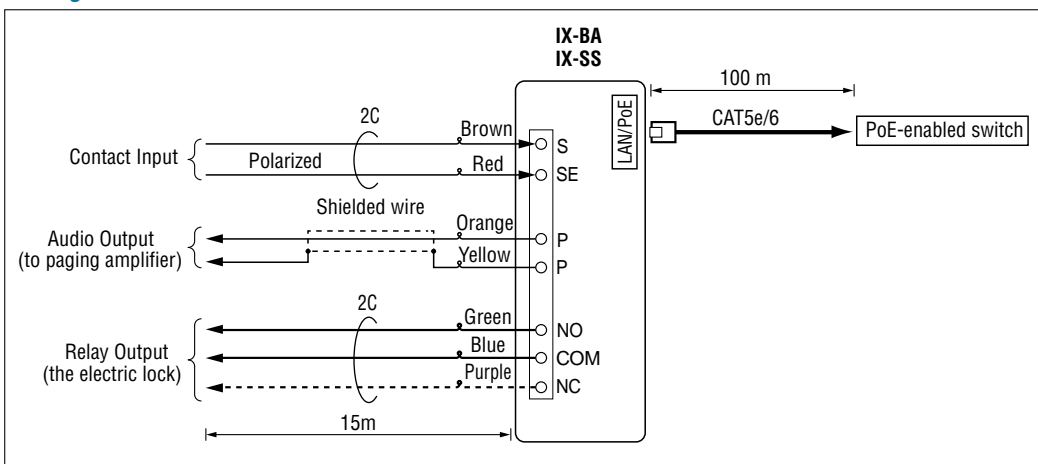
### Specifications (IX-BA)

Power source	Power-over-Ethernet (IEEE 802.3af Class 0)
Communication	Open voice hands-free communication
Mounting	Surface-wall mount (directly to wall)
Material	Front panel: Fire-retardant resin Main unit: flame resisting PC+ABS resin

### Unit dimensions



### Wiring





## Video door station



**IX-DA**  
IP Direct Audio  
and Video Door Station



**IX-DF**  
IP Direct Audio  
and Video Door Station

- Stainless steel
- PoE - 802.3af
- Flush mount
- Mounting box included
- Input/Output : Contact input X 1  
Relay output X 1  
Audio output X 1



**IX-DF-P**  
IP Direct Audio  
and Video Door Station  
for ProxPoint® Reader

- Same features as IX-DF
- Compatible with HID® ProxPoint® Smart Card Reader
- Input/Output : Contact input X 1  
Relay output X 1  
Audio output X 1

\* Card reader not included



**IX-DF-PI**  
IP Direct Audio  
and Video Door Station  
for iCLASS® Reader

- Same features as IX-DF
- Compatible with HID® iCLASS® Smart Card Reader
- Input/Output : Contact input X 1  
Relay output X 1  
Audio output X 1

\* Card reader not included

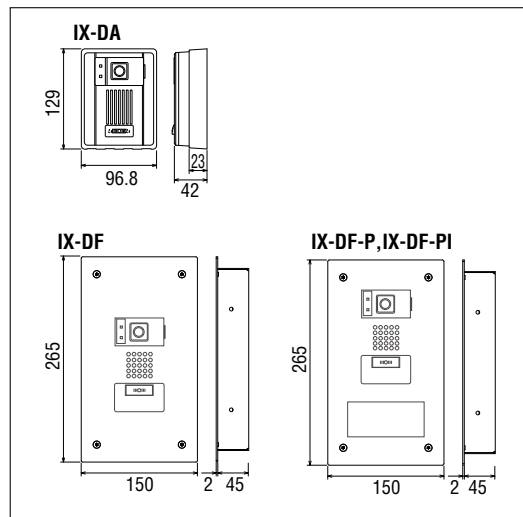
### Features

- Directly connectable to an IP network
- Door release output
- The indicator flash by press the button, talking, door releasing
- White light LED to illuminate the visitor automatically at night
- System settings are possible on the connected PC
- Calling up to 20 preprogrammed master stations all together
- Power supply by the PoE

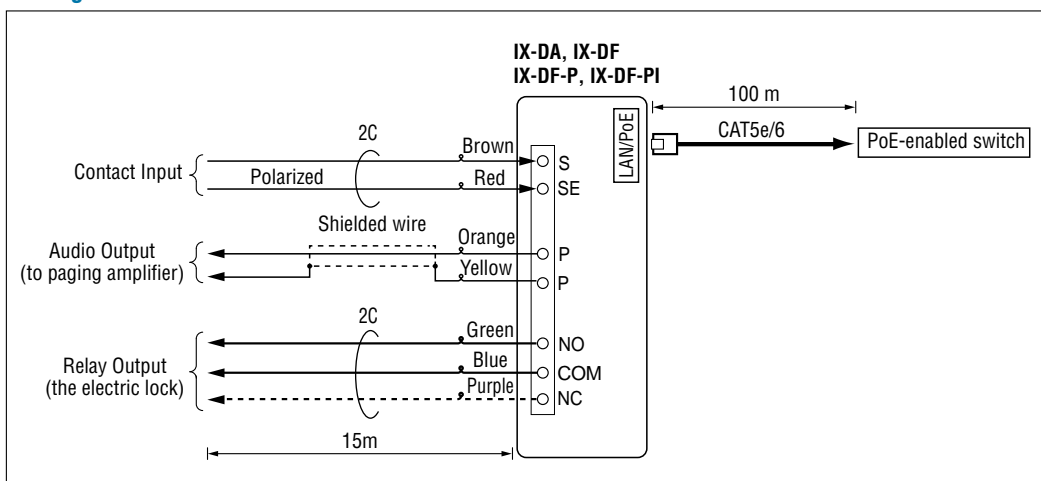
### Specifications (IX-DA)

Power source	Power-over-Ethernet (IEEE 802.3af Class 0)
Communication	Open voice hands-free communication
Camera	1/4-inch color CCD
Minimum illumination	5 Lux
Mounting	Surface-wall mount (directly to wall)
Material	Front panel: fire-retardant resin Main unit: flame resisting PC+ABS resin

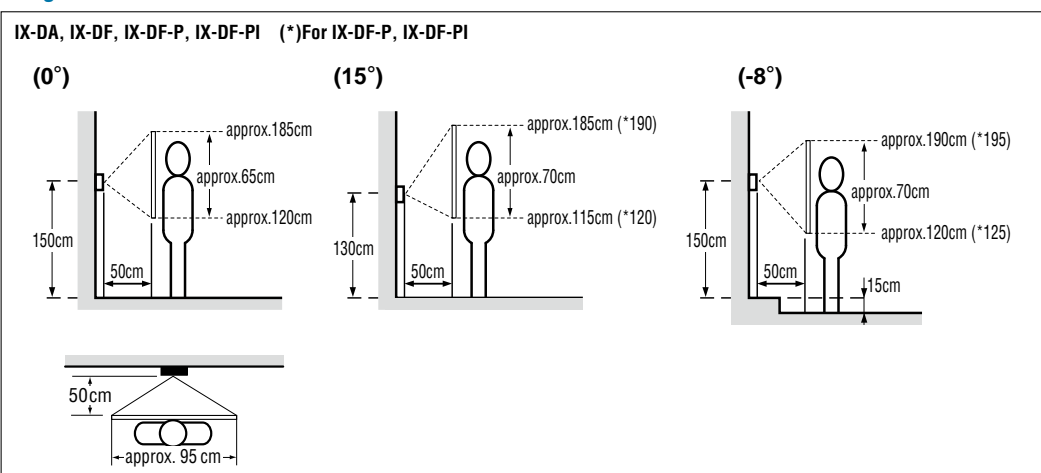
### Unit dimensions



### Wiring



### Image view area



# Security IP Video Intercom System

## IS System

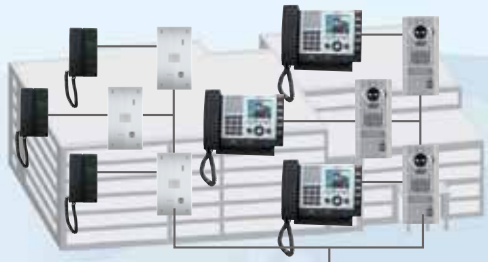
IS Series is a network-based IP intercom system that can make centralized security management simple and easy. Ideal for both small and large facilities.

### Used as IP network system

IS Series can be used as a local network security system in a facility, or as an IP network security system that can manage more than one facility from a control center.

### IP network system image

Hardwired network system



Hardwired network system



IS-IPMV

### The Audio Sub Station is available.

You can choose the Audio Sub Station. The Audio Sub Station can be selected from 3 types, a handset type or hands-free type.



IS-RS



IS-SS



IS-SS-2G

### Your PC can be used as the Master Station (IS-SOFT).

You can use your PC just like the Master Station by installing the IS software.

\* It may not be available depending on your PC or OS version.



## Panoramic wide angle view and Zoom & PanTilt for higher security

To provide effective security, IS series features a wide angle camera that enables you to see an innovative panoramic view! People standing on sides and people of all heights can be easily identified.

### 170° viewing angle

The IS Series features a wide angle camera with PanTilt & Zoom function.



## Other Functions

### Schedule Chime

Program daily Chime by day, week, month, Create different schedules for holidays, breaks, or after hours.

### Forward Unanswered Calls Automatically

If a master station is not answered, have the calling forwarded to another master station.

### Emergency Broadcasts

Create zones easily to broadcast emergency announcements quickly.

### Create Unique System Settings

Save system settings, then export and upload them to another system.

### Customize Sounds

Load up to 15 Pre-recorded messages or sound source.

### Transfer Video Calls

Call-ins from a video door station can be transferred to any standard or PC master station on the network for easy identification.

### Browser Based Set-up

Simply use a browser to get on line and set-up, change, or customize the IS systems.

### Paging

You can make a paging from the Master Station to other Master Stations, Door Stations, and Room Sub Stations.



<b>Hardwired system</b> <b>20</b> <b>IS-MV</b>	<b>IP system</b> <b>X 160</b> /site <b>Master Stations</b>	<b>Hardwired system</b> <b>20</b> <b>IS-DV</b>	<b>IP system</b> <b>X 160</b> /site <b>Video Door Stations</b>	<b>Hardwired system</b> <b>120</b> <b>IS-RS</b>	<b>IP system</b> <b>X 960</b> /site <b>Audio Stations</b>
<b>IP system</b> <b>X 32</b> /site <b>IP Master Stations</b>	<b>IS-IPMV</b>	<b>IP system</b> <b>X 32</b> /site <b>IP Door Stations</b>	<b>IS-IPDV</b>	<b>IP system</b> <b>X 31</b> /site <b>PC Master Stations Application</b>	<b>IS-SOFT</b>

The maximum number of each unit connectable to a standard (IP) system differs from the system configuration.

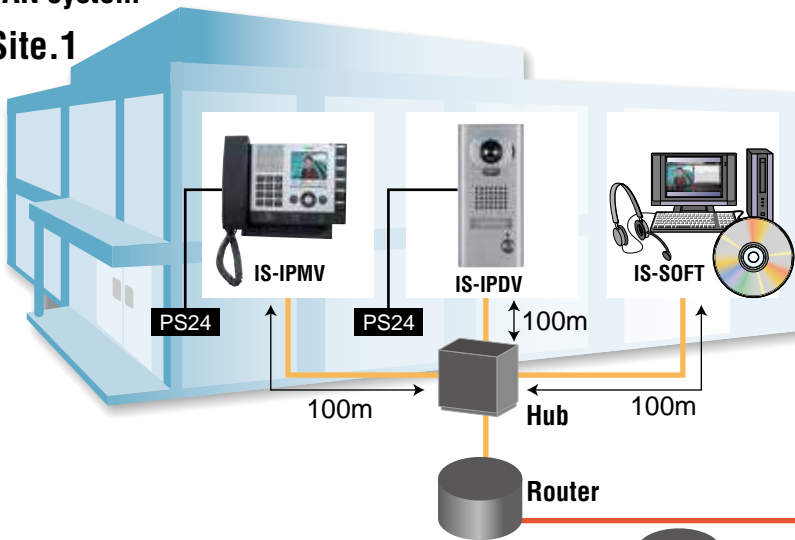
\* Depending on combinations, the number above may not be applied.

# Security IP Video Intercom System

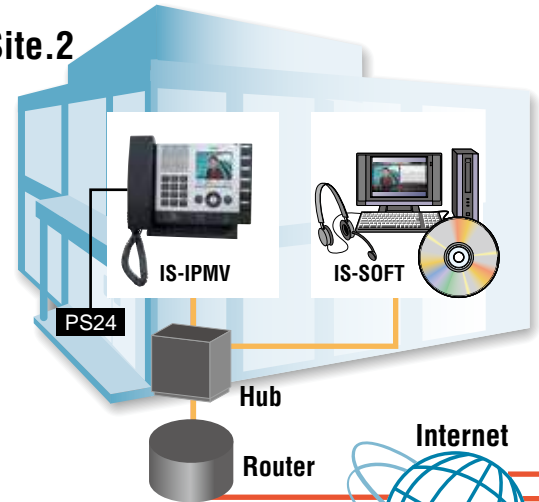
## System Configuration

### WAN system

#### Site.1

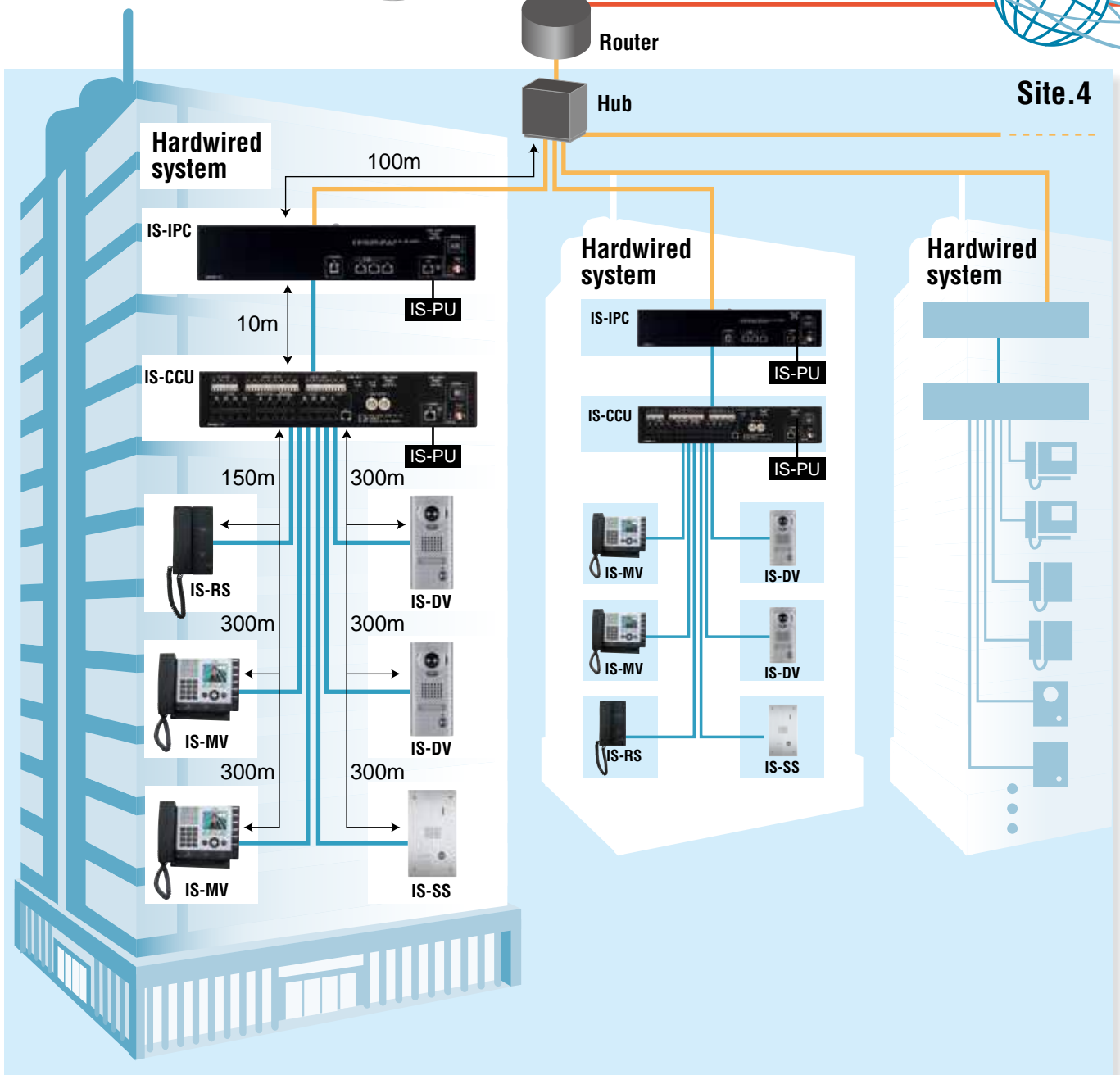


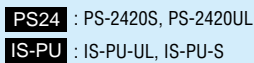
#### Site.2



Internet

#### Site.4



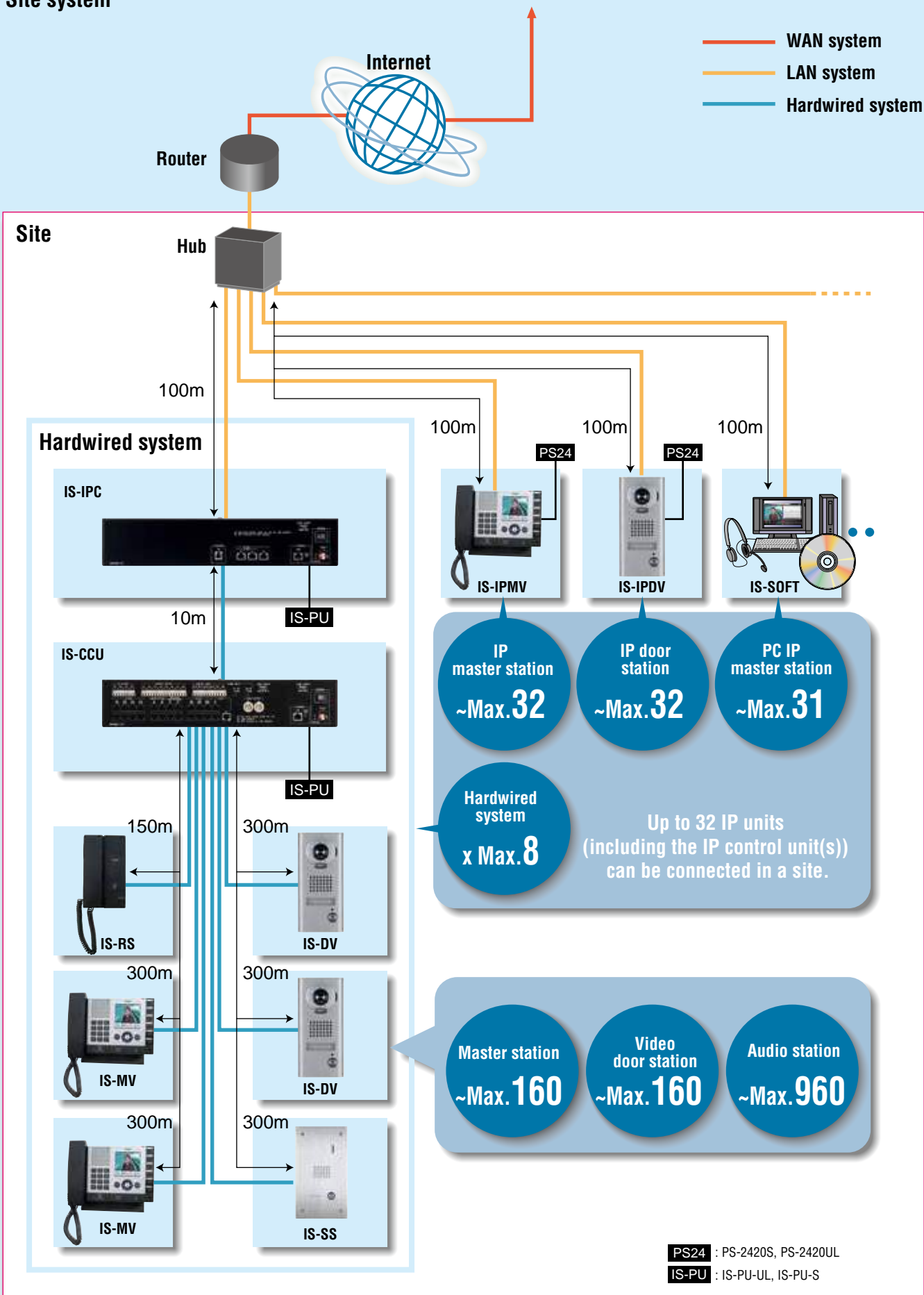




# Security IP Video Intercom System

## System Configuration

### Site system



### Hardwired system

PT : AC transformer  
IS-PU : IS-PU-UL, IS-PU-S

### Maximum number of each unit connectable to a hardwired system

Category	Model name	Type	Max. number
Control unit	IS-CCU	Central control unit	1
	IS-SCU	Add-on control unit	2
	IS-RCU	Room sub control unit	4
Master station	IS-MV	Color monitor master station	20
Sub station	IS-DV	Vandal resistant video door station (surface-mount)	20
	IS-DVF	Vandal resistant video door station (flush-mount)	
	IS-SS(-2G)	Vandal resistant door station (flush-mount)	
	IS-RS	Room sub station*1	120

\*1: You can use vandal resistant door stations (IS-SS or IS-SS-2G) instead of room sub stations (IS-RS).

# Security IP Video Intercom System

## IP Master station



**IS-IPMV**  
IP master station w/Wide and Zoom & PanTilt color monitor

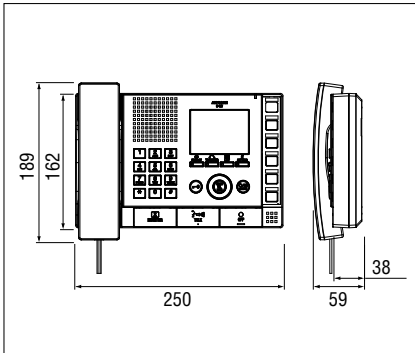
### Features

- Directly connectable to an IP network
- 3.5-inch display for operation and video monitoring
- A variety of display modes designed for assisting your operation
- Hands-free, press-to-talk or handset audio communication
- Direct voice call from master station to another station
- System settings are possible on the connected PC
- Various setting items for customizing your master station
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Call or communication transferring to another master station
- Paging or chime paging to the registered zones and / or stations
- Monitoring a single station or scan-monitoring up to 20 pre-programmed stations
- Either power supply unit (PS-2420S / UL) or PoE

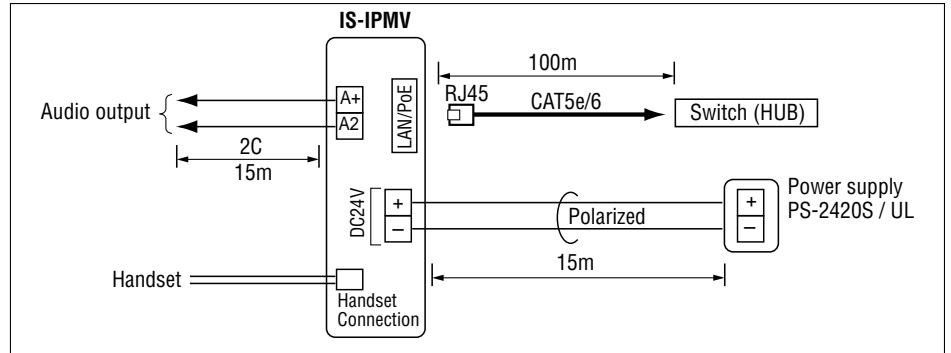
### Specifications (IS-IPMV)

Power source	PS-2420S, PS-2420UL, or PoE
Current consumption	Max. 65mA (PoE) Max. 130mA (when power supply unit is used)
Communication	Handset: simultaneous communication (When press-to-talk (PTT) is not set) Hands-free: auto-voice actuation or Press-to-talk (PTT)
Monitor	3.5-inch color LCD monitor
Mounting	Desktop use (with or without desktop stand) or wall-mounting
Material	Flame resisting ABS resin

### Unit dimensions



### Wiring



## IP Video door station



**IS-IPDV**  
Wide and Zoom & PanTilt Vandal resistant IP video door station, surface mount

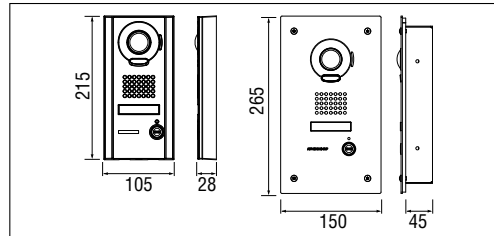


**IS-IPDVF**  
Wide and Zoom & PanTilt Vandal resistant IP video door station flush mount

### Features

- Directly connectable to an IP network
- Approx. 170° range wide view video camera
- Door release output
- Directory card with backlight
- White light LED to illuminate the visitor automatically at night
- System settings are possible on the connected PC
- Calling up to 20 preprogrammed master stations all together
- Remote site calling and communicating capability
- Either power supply unit (PS-2420S / UL) or PoE

### Unit dimensions



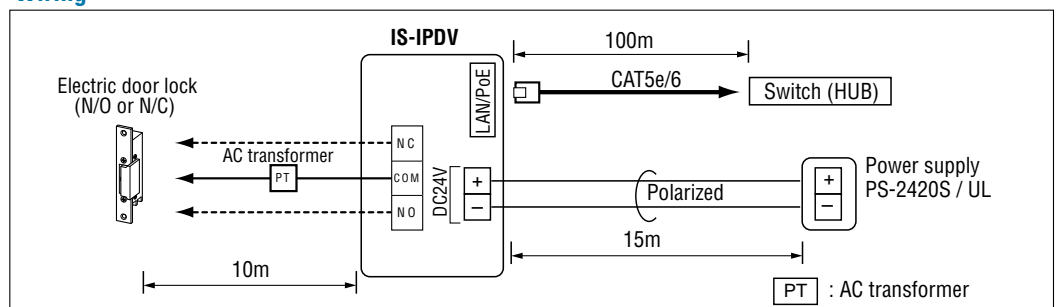
### Specifications (IS-IPDV, IS-IPDVF)

Power source	PS-2420S, PS-2420UL, or PoE
Current consumption	Max. 85mA (PoE) Max. 160mA (when power supply unit is used)
Communication	Open voice hands-free communication
Camera	1/4-inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: approx. 170° (horizontal)
Mounting	IS-IPDV: Surface-wall mount (directly to wall) IS-IPDVF: Flush-mount
Material	Front panel: aluminum die-cast (IS-IPDV) stainless steel (IS-IPDVF) Main unit: flame resisting PC+ABS resin

### Image view area

Refer to the descriptions for the image view area.  
→ P.10

### Wiring



## PC application



**IS-SOFT**  
PC application

### PC monitor



### Features

- PC software with full master station functions
- 7 languages (English, French, Spanish, German, Dutch, Italian & Japanese) are selectable for displaying windows
- Various settings are possible from 9 setting windows
- Play window for searching for and playing back recorded files
- Up to 24 speed dials are available
- Records video and audio from video door stations
- A still picture or video of visitor can be recorded
- Either headset (not included) or handset (not included) can be used for communication
- Hands-free or press-to-talk communication is possible with a headset

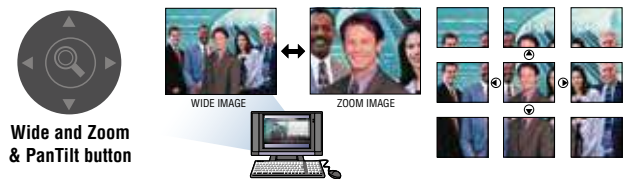
### System requirements

OS	Windows XP Home/Professional (SP3)/32-bit version, Windows Vista Ultimate/Home/Business/Enterprise (SP2)/32-bit version/64-bit version Windows 7 Home Premium/Professional/Enterprise/Ultimate/32-bit version/64-bit version Windows 8/Pro/Enterprise/32-bit version/64-bit version
PC system requirements	Processor: 2 GHz or faster System memory (RAM): 1 GB RAM or more Hard disk: 10 MB or more (additional space is needed for recording) Sound card: 8-bit full duplex, Direct Sound compatible Display: 800 x 600 or higher 1024 x 768 or higher 1920 x 1200 or higher Run-time: Microsoft® .NET Framework 4.0 or later Network: 10BASE-T/100BASE-TX Ethernet
Protocol	TCP/IPV4, UDP/IPV4, TCP/IPV6, UDP/IPV6, SIP, Others
Network bandwidth	320 k to 8 Mbps

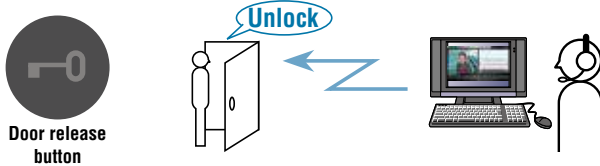
### Video & Audio communication with entrance side by PC



### Wide and Zoom & PanTilt control from PC



### Unlock the door after verifying visitor identity



### Room to room communication with master station



## IP Control unit



**IS-IPC**  
IP control unit

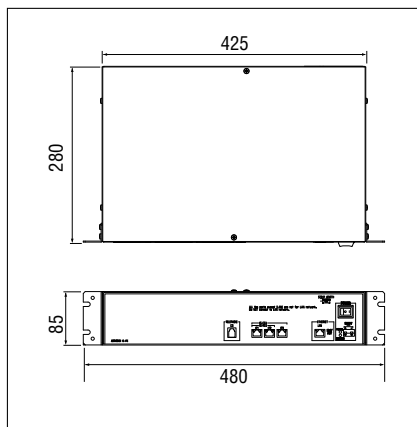
### Features

- Configures a standard (IP) system connecting with an IP network
- Connectable with either a central control unit (IS-CCU) or room sub control unit (IS-RCU)
- System settings are possible on the connected PC
- Chime and transfer schedule can be set
- System setting data can be downloaded or uploaded
- Time correction function synchronized with a PC or NTP server
- Daylight saving time is available
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

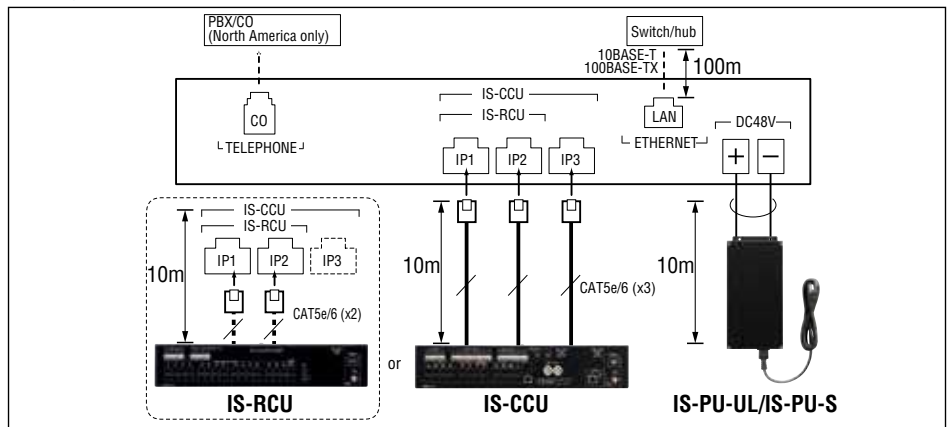
### Specifications (IS-IPC)

Power source	48V DC (supplied from IS-PU)
Current consumption	Max. 105mA
Talk channels	2 talk & 2 constrained video channels, 1 chime, other channels
Central control unit	Max. 1
Room sub control unit	
LAN	Ethernet (10 BASE-T, 100 BASE-TX)
Mounting rack-mount	(19-inch, 2U rack) or wall-mount
Material	Steel plate

### Unit dimensions



### Wiring



# Security IP Video Intercom System

## Master station



### IS-MV

Master station w/Wide and Zoom & PanTilt color monitor

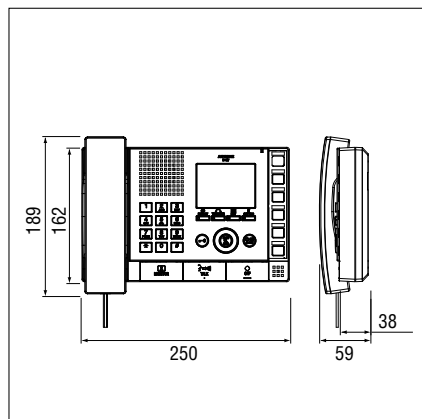
### Features

- 3.5-inch display for operation and video monitoring
- A variety of display modes designed for assisting your operation
- Hands-free, press-to-talk or handset audio communication
- Direct voice call from master station to another station
- System settings are possible on the connected PC
- Various setting items for customizing your master station
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Call or communication transferring to another master station
- Paging or chime paging to the registered zones and/or stations
- Monitoring a single station or scan-monitoring up to 20 pre-programmed stations
- Remote site calling and communicating capability (required IS-IPC)

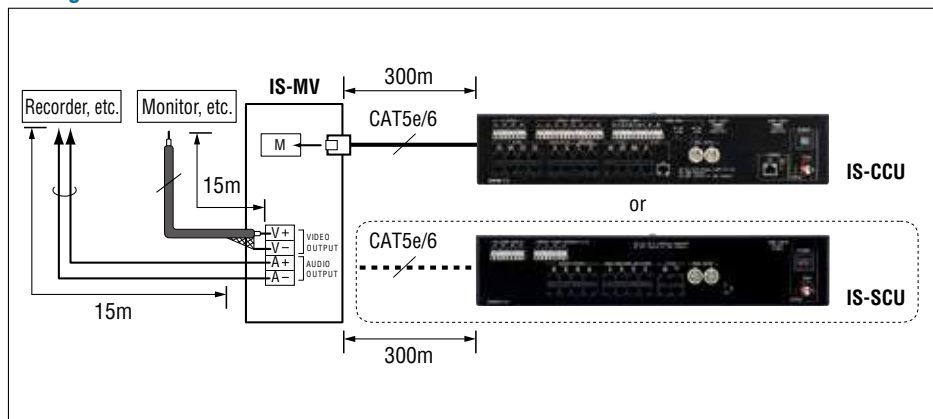
### Specifications (IS-MV)

Power source	Supplied from the central control unit or add-on control unit
Communication	Handset: simultaneous communication (When press-to-talk (PTT) is not set) Hands-free: auto-voice actuation or Press-to-talk (PTT)
Monitor	3.5-inch color LCD monitor
Mounting	Desktop use (with or without desktop stand) or wall-mounting
Material	Flame resisting ABS resin

### Unit dimensions



### Wiring



## Video door station



### IS-DV

Wide and Zoom & PanTilt Vandal resistant video door station, surface mount



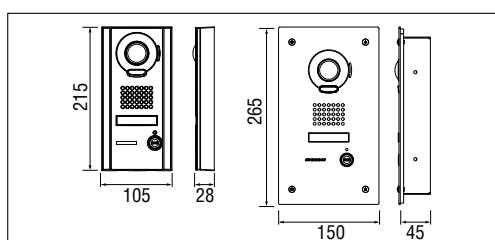
### IS-DVF

Wide and Zoom & PanTilt Vandal resistant video door station flush mount

### Features

- Approx. 170° range wide view video camera
- Door release output
- Directory card with backlight
- White light LED to illuminate the visitor automatically at night
- Calling up to 20 pre-programmed master stations all together
- Remote site calling and communicating capability (required IS-IPC)

### Unit dimensions



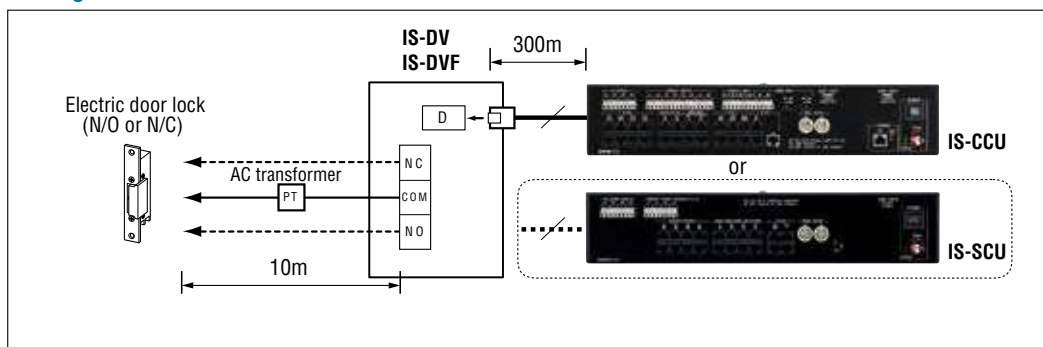
### Specifications (IS-DV, IS-DVF)

Power source	Supplied from the central control unit or add-on control unit
Communication	Open voice hands-free communication
Camera	1/4-inch color CMOS
Minimum illumination	5 Lux
Camera angle	Wide: approx. 170° (horizontal)
Mounting	IS-DV: Surface-wall mount (directly to wall) IS-DVF: Flush-mount
Material	Front panel: aluminum die-cast (IS-DV) stainless steel (IS-DVF) Main unit: flame resisting PC+ABS resin

### Image view area

Refer to the descriptions for the image view area.  
→ P.10

### Wiring





## Audio station



**IS-RS**  
Room sub station



**IS-SS**  
Vandal resistant  
door station,  
flush mount



**IS-SS-2G**  
Vandal resistant  
door station,  
flush mount  
2-gang mounting

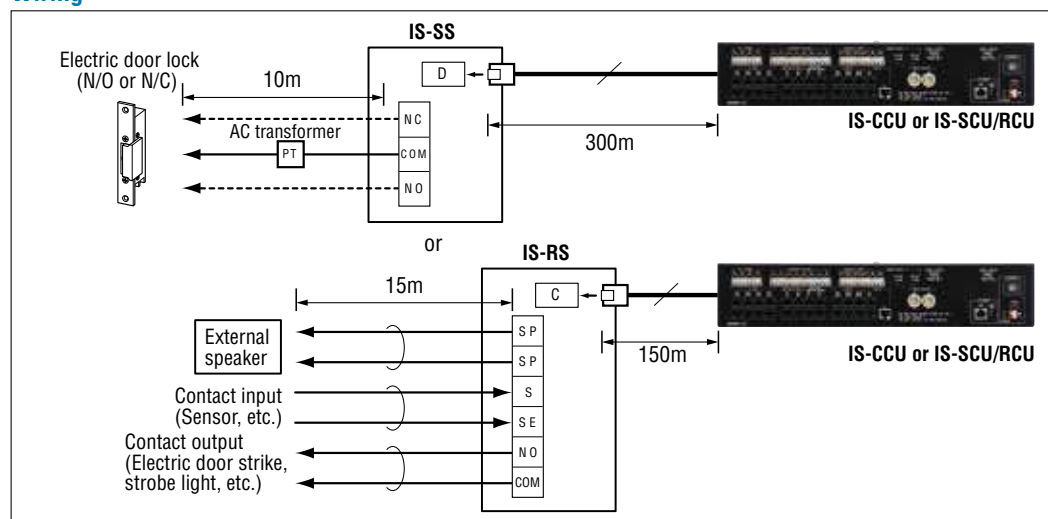
### Features

- Calling up to 20 pre-programmed master stations all together
- Remote site calling and communicating capability (required IS-IPC)
- Electric door strike can be connected.
- External speaker can be connected (IS-RS only)
- Option input and option output (IS-RS and IS-SS-2G)

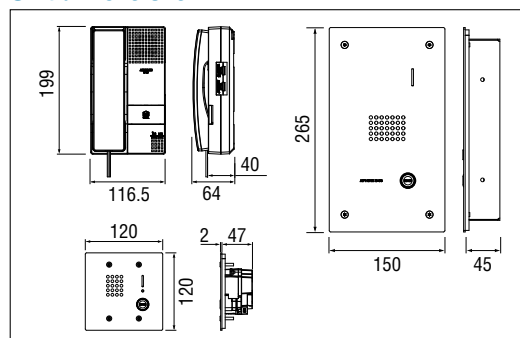
### Specifications (IS-RS)

Power source	Supplied from the central control unit, add-on control unit or room sub control unit
Communication	Handset: simultaneous communication Hands-free: auto-voice actuation or Press-to-talk (PTT)
Mounting	Surface-wall mount (directly to wall or electrical box)
Material	Flame resisting ABS resin

### Wiring



### Unit dimensions



### Specifications (IS-SS, IS-SS-2G)

Power source	Supplied from the central control unit, add-on control unit or room sub control unit
Communication	Open voice hands-free communication
Mounting	Flush-mount
Material	Front panel: stainless steel Main unit: flame resisting PC+ABC resin

## Control unit



**IS-CCU**  
Central control unit



**IS-SCU**  
Add-on control unit



**IS-RCU**  
Room sub control unit

### Features (IS-CCU)

- Configures a local system with up to 2 add-on control units, 4 room sub control units, in total 20 master stations, 120 sub stations and 28 PA outputs
- 4 PA outputs, 2 chime inputs, 2 video outputs
- System settings are possible on the connected PC
- Up to 3 M Bytes of audio files can be uploaded for sound source
- Chime and transfer schedule can be set
- 3 triggered actions selectable for contact input
- 5 trigger conditions selectable for contact output
- System setting data can be downloaded or uploaded
- Time correction function synchronized with a PC or NTP server
- Daylight saving time is available
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

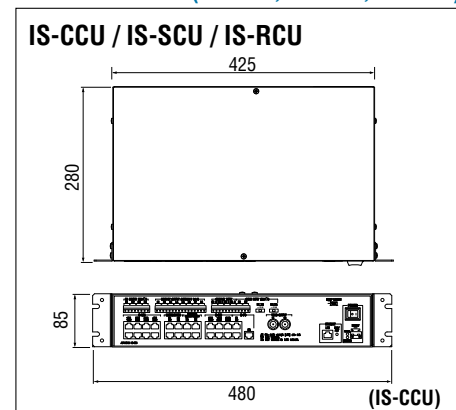
### Features (IS-SCU)

- Adds up to 8 master stations and 8 sub stations in a local system
- 4 PA outputs
- 4 trigger conditions selectable for contact output
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

### Features (IS-RCU)

- Connectable with up to 30 sub stations
- Connectable with either an IP control unit (IS-IPC) or central control unit (IS-CCU)
- 4 PA outputs
- 4 trigger conditions selectable for contact output
- Either rack-mounting (into 19-inch rack) or wall-mounting is possible

### Unit dimensions (IS-CCU, IS-SCU, IS-RCU)



# Security IP Video Intercom System

## Specifications (IS-CCU)

Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 0.8A
Talk channels	Local system: 2 talk & 2 video channels, 1 chime
Video channels	
Master station(s)	Max. 4
Video door station(s)	
Audio door station(s)	Max. 4
Room sub station(s)	
Add-on control unit	Max. 2
Room sub control unit	Max. 4
IP control unit	Max. 1
Video output	NTSC BNC (Video channel 1,2)
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount

\* The system setting tool is compliant with Windows XP, Windows VISTA and Windows 7.

## Specifications (IS-SCU)

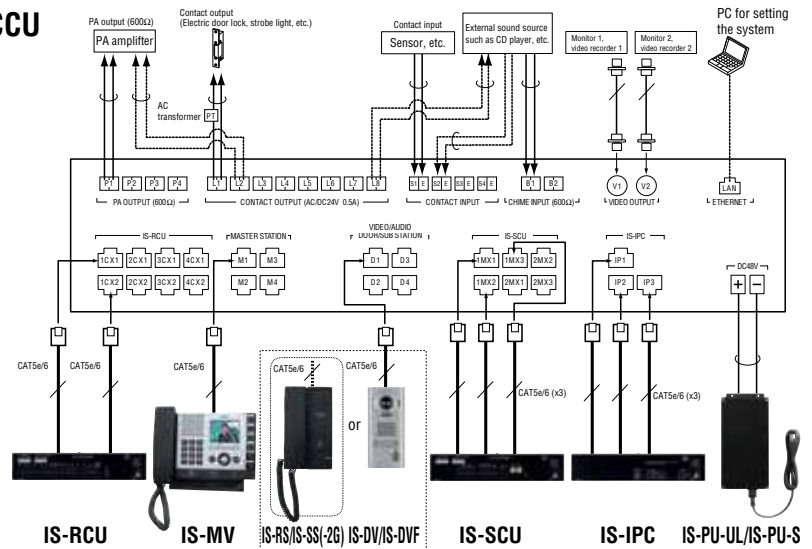
Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 1.2A
Talk channels	Local system: 2 talk & 2 video channels, 1 chime
Video channels	
Master station(s)	Max. 8
Video door station(s)	
Audio door station(s)	Max. 8
Room sub station(s)	
Video output	NTSC BNC (Video channel 1,2)
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount

## Specifications (IS-RCU)

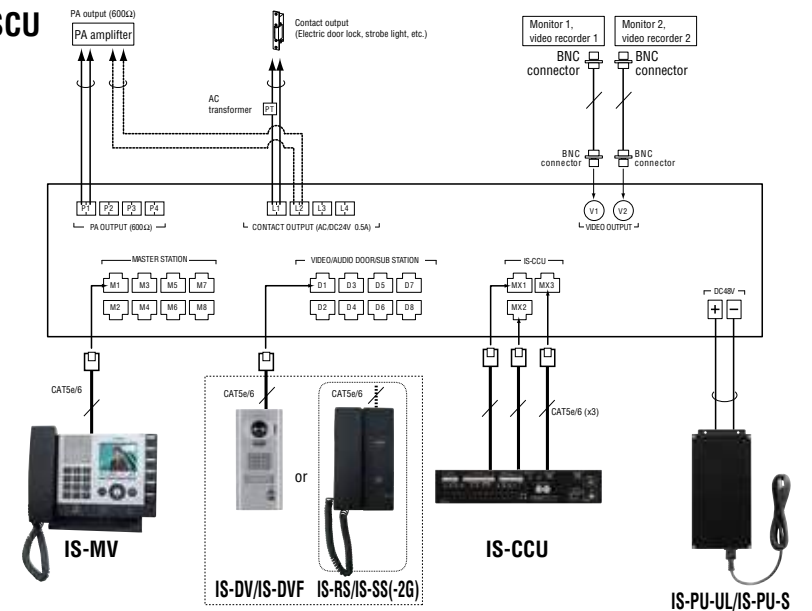
Power source	48V DC (supplied from the power supply unit)
Current consumption	Max. 1.8A
Talk channels	Local system: 2 talk channels, 1 chime
Audio door station(s)	
Room sub station(s)	Max. 30
Mounting	Rack-mount (19-inch, 2U rack) or wall-mount

## Wiring

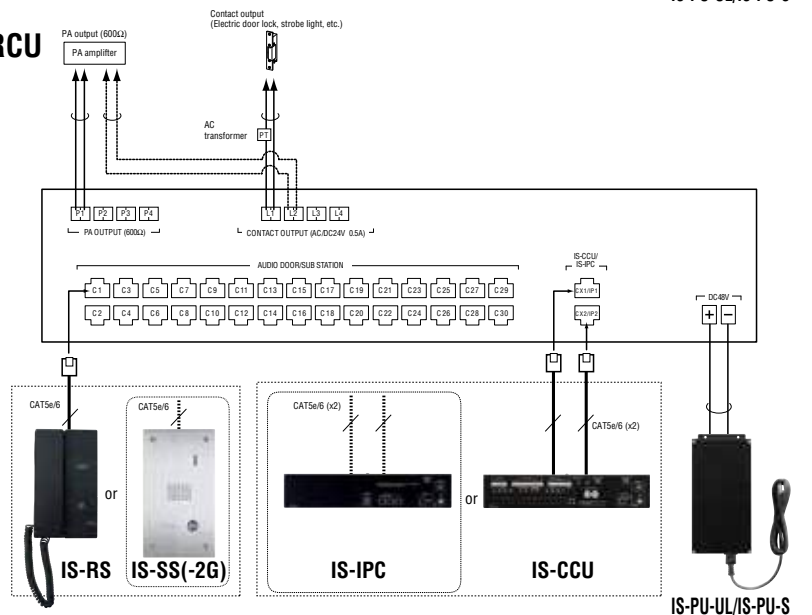
### IS-CCU



### IS-SCU



### IS-RCU



## Power supply

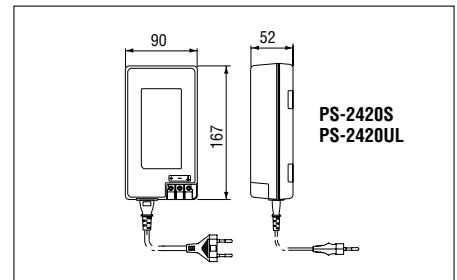


**PS-2420S  
PS-2420UL**

### Specifications (PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz 60W/100-125VA
Output voltage	24V DC, 2A

### Unit dimensions



**IS-PU-UL  
IS-PU-S**  
Power supply unit

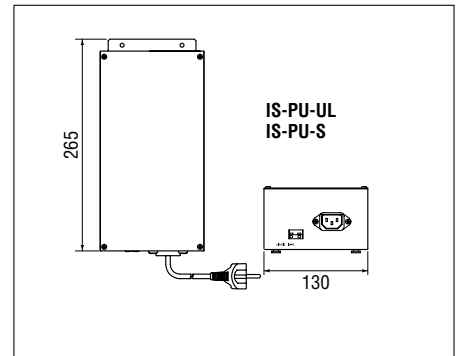
### Features

- Either rack-mounting (into 19-inch rack) or wall-mounting is possible by using the optional IS-RACK

### Specifications

Power source	AC 100 - 240V, 50/60Hz.
Power consumption	120W
Output voltage	DC 48V
Output current	2.1A
Mounting	Wall-mount or rack-mount (IS-RACK)
Material	Steel plate

### Unit dimensions



## Functional Specification

Item	Video Door Station	Audio Station	Master Station	IP Video Door Station	IP Master Station	PC application
<b>Features</b>						
Hands-free	✓	✓	✓	✓	✓	✓
Press-to-talk	—	—	✓	—	✓	✓
Handset	—	✓	✓	—	✓	—
Talk transfer	—	—	✓	—	✓	✓
Video identification at door call	—	—	✓	—	✓	✓
Answering to door call	—	—	✓	—	✓	✓
Door release (contact output)	—	—	✓	—	✓	✓
Call forwarding on door call	—	—	✓	—	✓	✓
Absence transfer on door call	—	—	✓	—	✓	✓
Zone page to door station	—	—	✓	—	✓	✓
Direct Voice call and talk-back	—	—	✓	—	✓	✓
Monitor of door camera image / audio	—	—	✓	—	✓	✓
Answering to master call	✓	✓	✓	✓	✓	✓
Answering to PC master call	✓	✓	✓	✓	✓	✓
Zone paging	—	—	✓	—	✓	✓
Zone chime of external sound source	—	—	✓	—	✓	✓
Zone chime of internal sound source	—	—	✓	—	✓	✓
E-mail at set trigger (small number of addresses)	✓	✓	—	✓	—	—
Video output	—	—	✓	—	—	—

# Integratable Audio & Video Security

MASTER

DOOR

8



120

AX

## Master station



**AX-8MV**  
8-call color monitor master station

**AX-8MV-W**  
(white)



**AX-8M**  
8-call audio master station



**AX-16SW**  
16-call add-on selector



**AX-8MV, AX-16SW**

## Central exchange unit



**AX-084C**  
Central exchange unit,  
4 masters and 8 doors

**AX-248C (Photo)**  
Central exchange unit,  
8 masters and 24 doors



**AX-320C**  
Add-on exchange unit,  
32 doors

**Power supply**  
**PS-2420S PS-2420UL**  
→ P.104

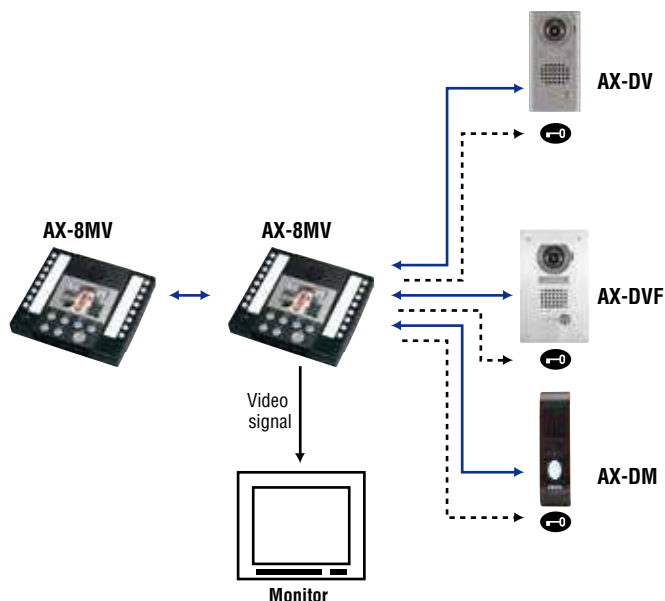
## Features

- Up to 120 video entrance stations and 8 master stations
- All wired on CAT5e, homerun cabling
- Total hands-free, auto-voice actuation, communication or Press-to-talk operation
- Two talk channels and two video channels.
- Communication privacy
- Masters available with 3.5-inch color TFT LCD
- Selective door release
- Master-to-master selective calling and All Call
- Standard or Priority call levels from door stations
- Scan monitoring: Hands-free audio/visual monitoring
- Video output from CEU and AX-8MV
- Integrate with CCTV, Access control etc.
- PC interface for programming and event logging
- Rack or wall mountable CEU
- Compatible with IE Series door stations
- Optional features: headset, footswitch, and PC remote control

## PC programming

Exchange No.	No.	Location Name	Video	Audio	Series	Call Level	OR Relay	Scan Monitor	8-Mst:1
1	1	Front Entrance	Video	AX	Normal	N.O.	Enable	On	
	2	Parking	Video	AX	Normal	N.O.	Enable	On	
	3		Video	AX	Normal	N.O.	Enable	On	
	4		Video	AX	Normal	N.O.	Enable	On	
	5		Video	AX	Normal	N.O.	Enable	On	
	6		Video	AX	Normal	N.O.	Enable	On	
	7		Video	AX	Normal	N.O.	Enable	On	
	8		Video	AX	Normal	N.O.	Enable	On	

## Communication network



↔ Calling & communication (w/video from door)

--- Door release

## Door station



**AX-DV**  
Color video door station  
surface mount



**AX-DV-P**  
Color video door station  
w/space for embed  
proximity reader  
surface mount



**AX-DVF**  
Color video door station  
flush mount



**AX-DVF-P**  
Color video door station  
w/space for embed  
proximity reader  
flush mount



**AX-DM**  
Audio door station  
Mullion type



**IF-DA**  
Audio door station



**IE-JA**  
Audio door station

## Lineup



**EL-12S**  
Electric door strike  
→ P.101

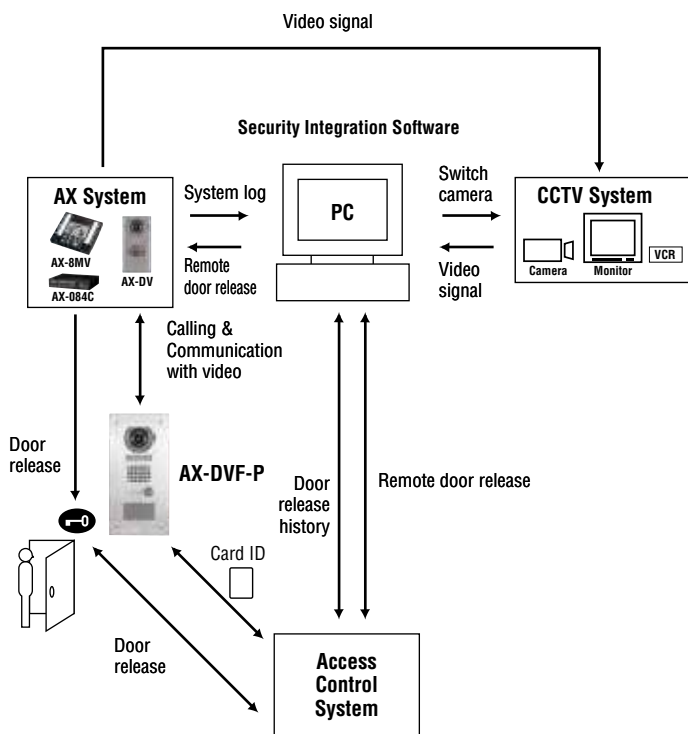


**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99

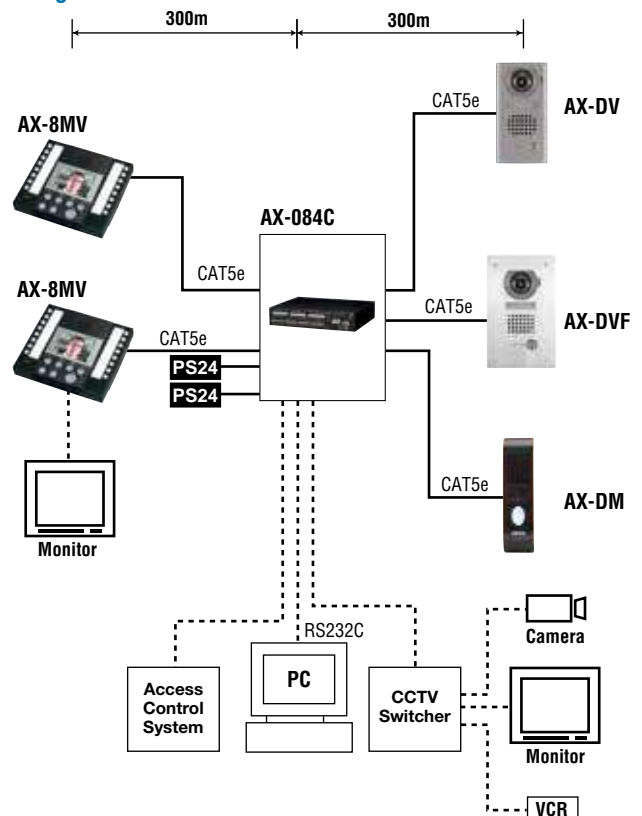


**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

## System Integration



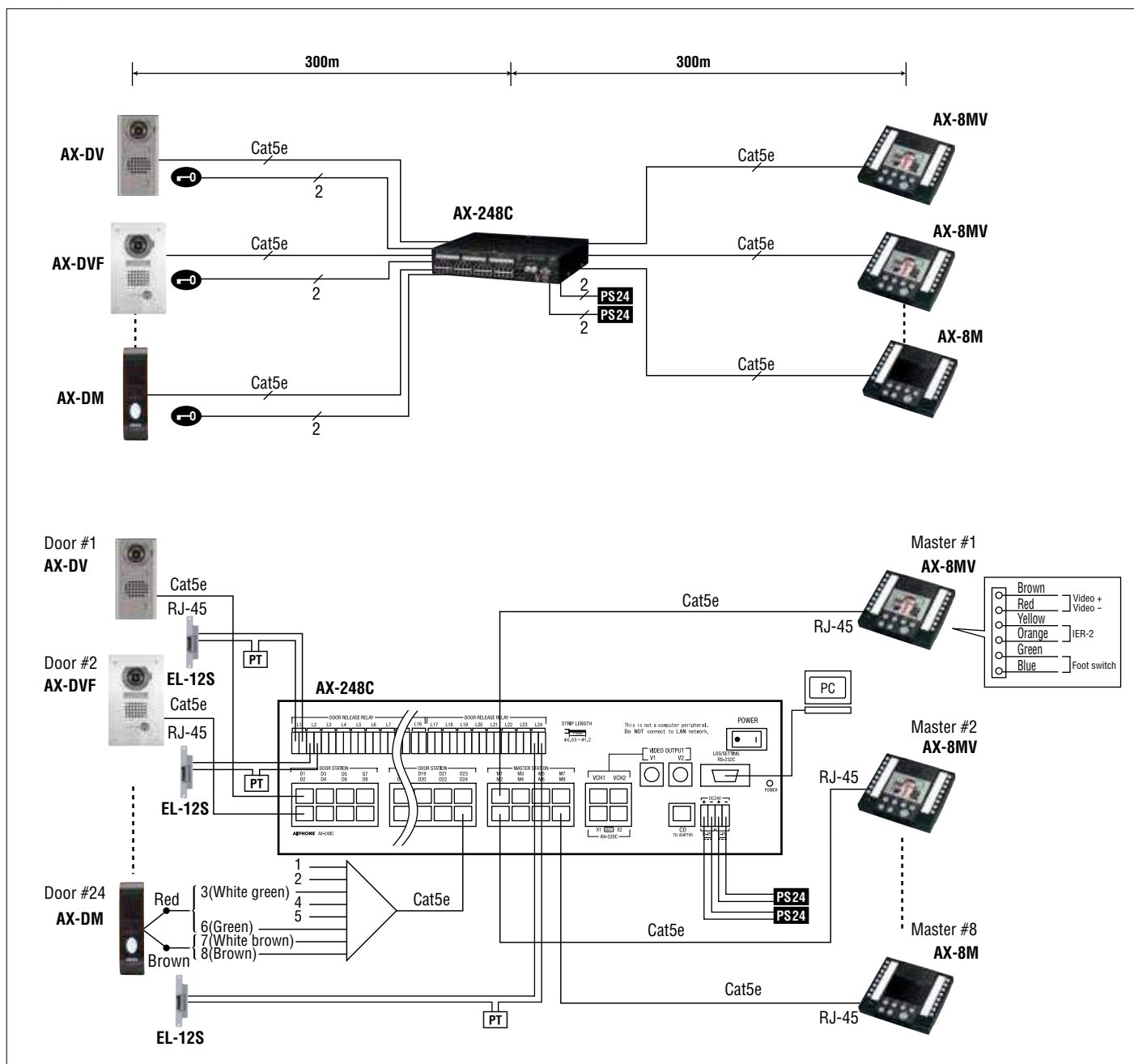
## Cabling





# Integratable Audio & Video Security

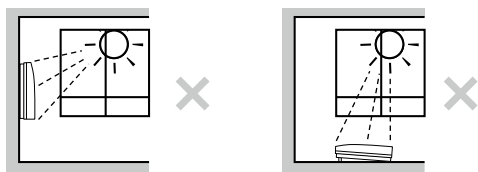
## Wiring



PS24 : PS-2420S, PS-2420UL PT : AC transformer

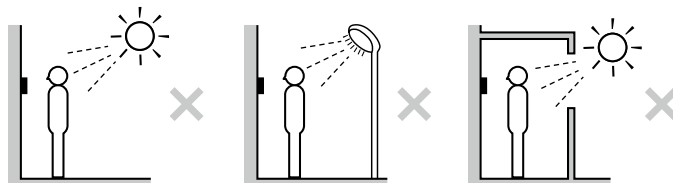
## Mounting locations

### Master station



Install the video master station in a place where the screen is not exposed to direct sunlight.

### Video door station



Do not install a video door station in any of the following locations where lighting or the ambient environment could impact the display on the video master station due to the characteristics of the door station's camera.

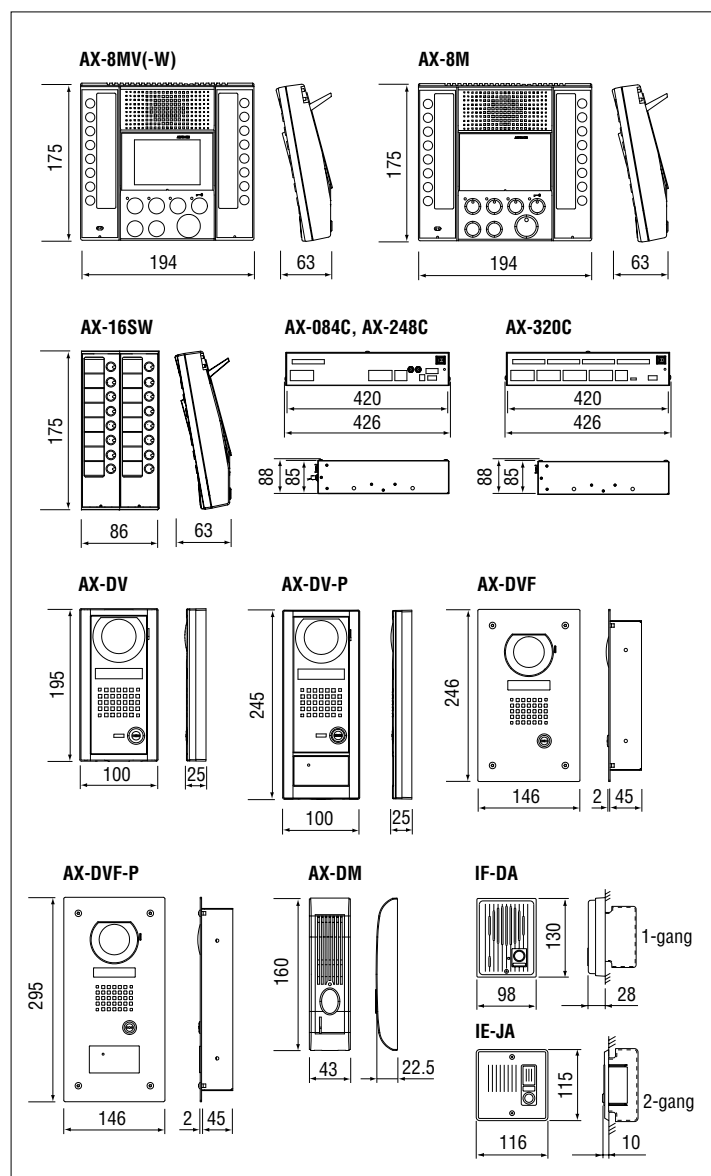
1. Locations subject to direct sunlight
2. Under street lights or door lights
3. Other locations subject to strong lighting conditions

## Components

AX-DV	AX-DVF	AX-DM	AX-8MV (AX-8M audio only)	AX-16SW	AX-084C or AX-248C	AX-320C
Number of door stations	Number of master stations	Number of add-on selectors per master	Number of central exchange unit	Number of add-on exchange units		
					AX-084C	AX-248C
1 ~ 8	up to 4	—	1	—	—	—
9 ~ 24	up to 8	1	—	1	—	—
25 ~ 40	up to 4	2	1	—	1	1
41 ~ 56	up to 8	3	—	1	—	1
57 ~ 72	up to 4	4	1	—	—	2
73 ~ 88	up to 8	5	—	1	—	2
89 ~ 104	up to 4	6	1	—	—	3
105 ~ 120	up to 8	7	—	1	—	3

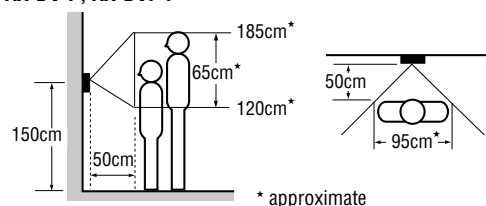
NOTE: Use the AX-248C for systems with more than 4 master stations (may effect the required quantity of AX-320C).  
2 pcs of power supplies are required for video system.

## Unit dimension



## Image view area

### • AX-DV, AX-DVF AX-DV-P, AX-DVF-P



## Specifications

Power source	24V DC, 2A (Two Power supplies required per video system)
Power supply	PS-2420S, PS-2420UL
Current consumption	AX-084C: Video (Max.) 650mA, Audio (Max.) 700mA AX-248C: Video (Max.) 1150mA, Audio (Max.) 1250mA AX-320C: Video (Max.) 280mA, Audio (Max.) 180mA
Calling	Normal call: an intermittent tremolo Priority call: a rapid intermittent tremolo Approx. 10-600 sec. or infinite
Communication	AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more. Approx. 30-600 sec.
Video monitor	3.5-inch direct view TFT color LCD
Scanning lines	525 lines
Night viewing	Up to 30cm from camera, with white LED projected, background beyond 30cm cannot be seen.
Door release contact	24V AC/DC, 0.5A
Outside video output	AX-084C, 248C: NTSC standard 1Vpp (0.7-1.4Vpp) BNC x 2 Switching signal: Open collector output 24V DC, 30mA RJ-45 x 2
Wiring	AX-8MV: NTSC standard 1Vpp (0.7-1.4Vpp) Homerun CAT5e wire to CEU
Wiring distance	CEU to door: 300 m (CAT5e) CEU to master: 300 m (CAT5e)

# AUDIO ENTRY SECURITY

Audio based security intercoms for those who want a simple security solution.



## DB SYSTEM

Hands-Free Communication in Any Place.  
2-Wire System for Simple Installation.

Hands-Free



### Lineup

Hands-free Two-Wire  
Electric Lock Door Phone  
DB-1MD



P60  
P61

Two-Wire Electric Lock  
Door Phone  
DA-1AS & DA-4DS



P63  
P64

Chime Tone Intercom  
C-123L/A



P65

Chime Tone Intercom  
TCS-MH



P66

Chime Tone Intercom  
IE-1AD(U)



P67

Chime Tone Intercom  
IE-1GD(U)



P68

Chime Tone Intercom  
IE-2A2DU



P69

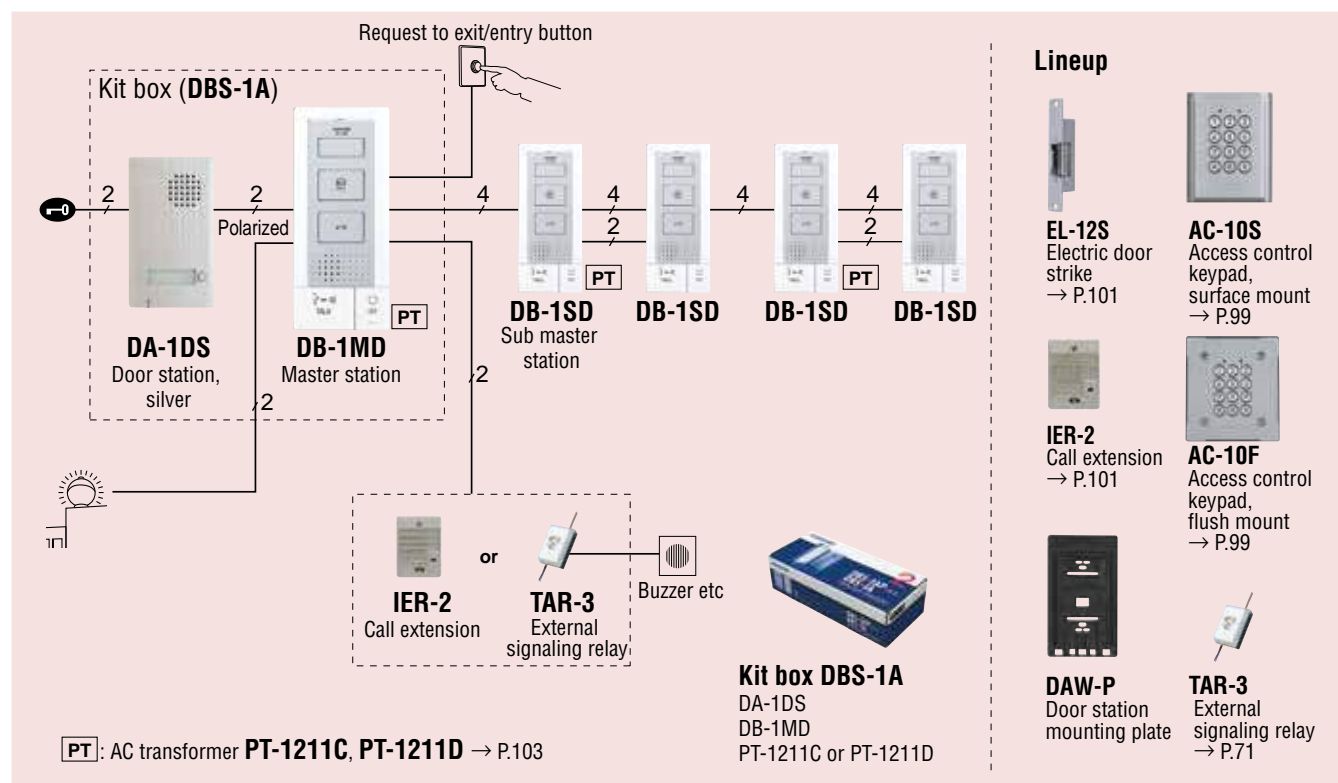
Chime Tone Intercom  
IE-8MD



P70

# Hands-free Two-Wire Electric Lock Door Phone

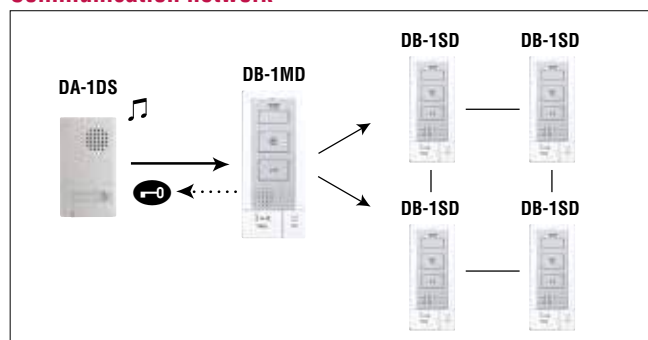
## DOOR 1 ROOM 5 DB-1MD



### Features

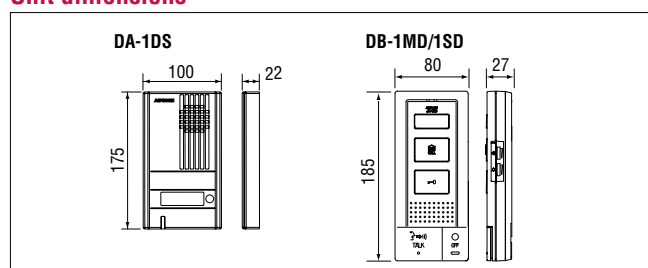
- Door release wired from door station, without additional transformer
- Two-wire system including door release
- Total hands-free communication, auto-voice actuation
- Press-to-talk operation available
- Up to 5 inside stations
- All call for internal communication
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder
- Directory backlighting
- Continuous chime tone (approx. 4 seconds)

### Communication network

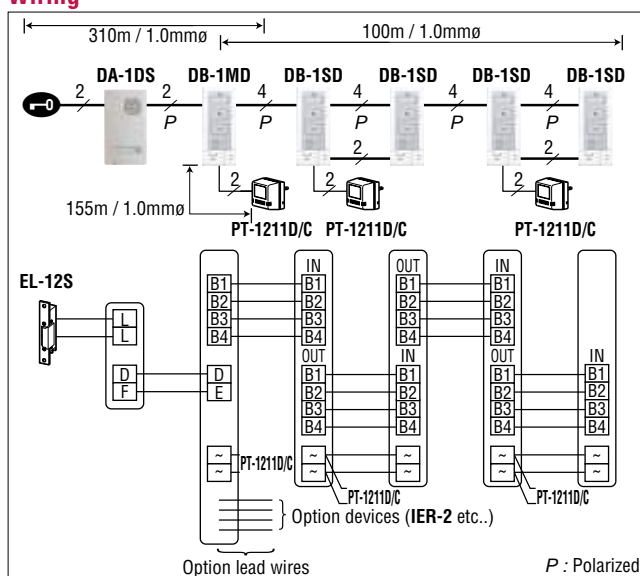


Press "call" button to ring inside station (s).

### Unit dimensions



### Wiring



### Specifications (DB-1MD, 1SD)

Power source	15V AC
AC transformer	PT-1211C, PT-1211D
Communication	Approx. 1 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button for 1 sec. or more.
Door release	EL-12S or others (More than (AC) 70Ω, AC 9.5 ~ 20V)
Option contact (AC/DC)	Voltage Max. : 24V, Min. : 1V Current Max. : 1.6A, Min. : 10mA
Wiring	2 wires, throughout AC trans - Master - Door - Door release
Wiring distance	PT-1211C/D ~ Door relse. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211C/D ~ DB-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø) DB-1MD ~ farthest DB-1SD 100m(0.65 ~ 1.0mmø)

# Hands-free Two-Wire Electric Lock Door Phone

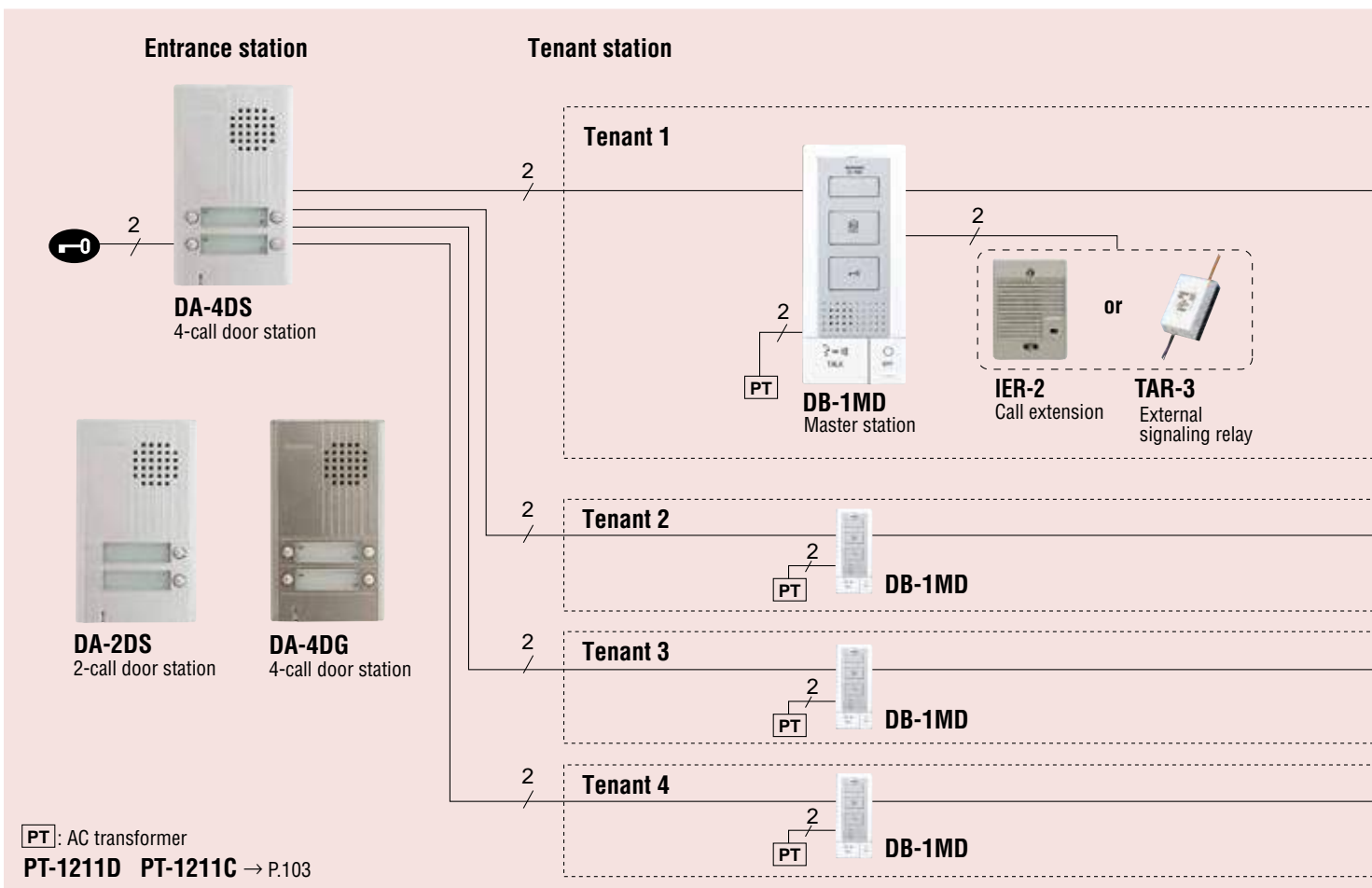
ENTRANCE

TENANT

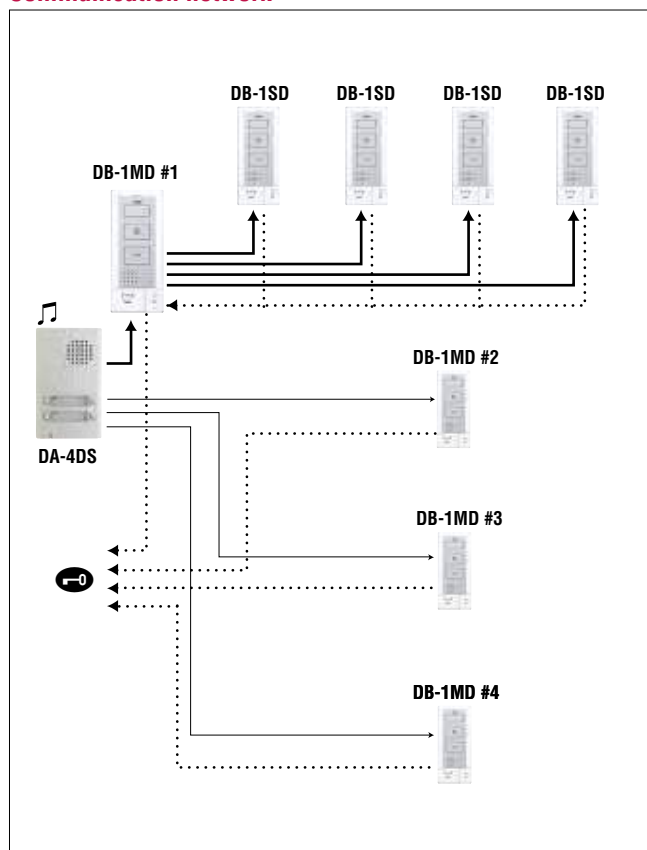
1

4

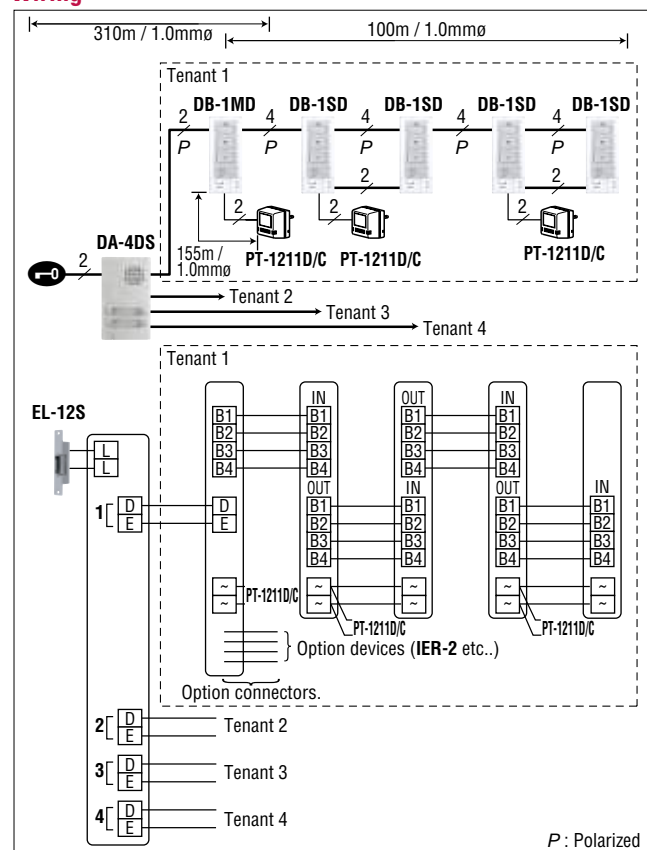
## DA-4DS with DB-1MD



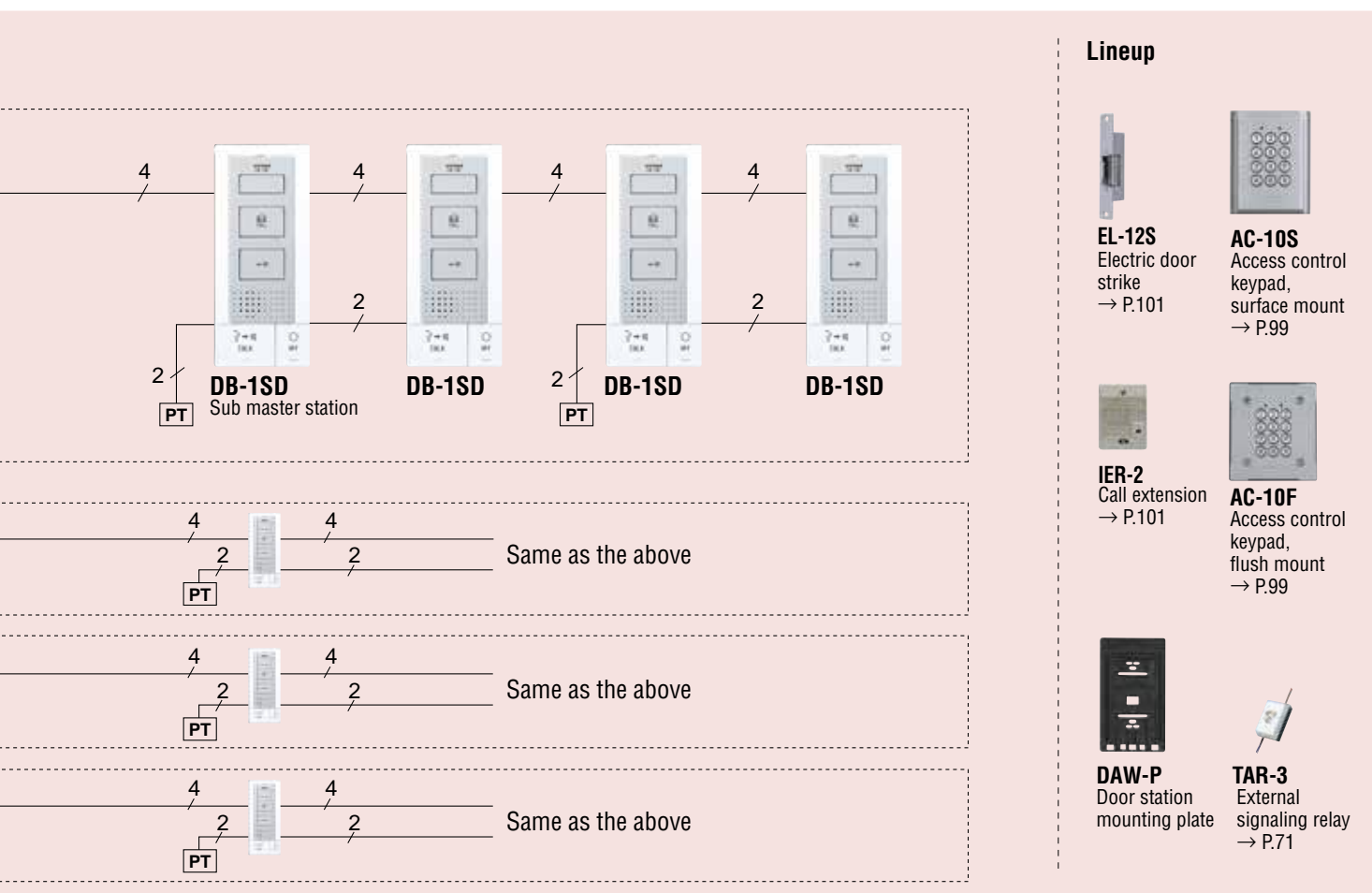
### Communication network



### Wiring







# Two-Wire Electric Lock Door Phone

## DOOR 1 ROOM 1 DA-1AS

### Boxed set



**DA-1AS**  
Kit box (silver color)



**DA-1AG**  
Kit box (gray color)



**DA-1DS**  
Door station  
silver panel



**DA-1MD**  
Master station



Door station  
gray panel



**DA-1MD**  
Master station

\*Add an appropriate power supply.

**PT**: AC transformer

**PT-1211D PT-1211C** → P.103

\*Add an appropriate AC transformer.

### Lineup



**EL-12S**  
Electric door  
strike  
→ P.101



**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



**DAR-1**  
Call extension



**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

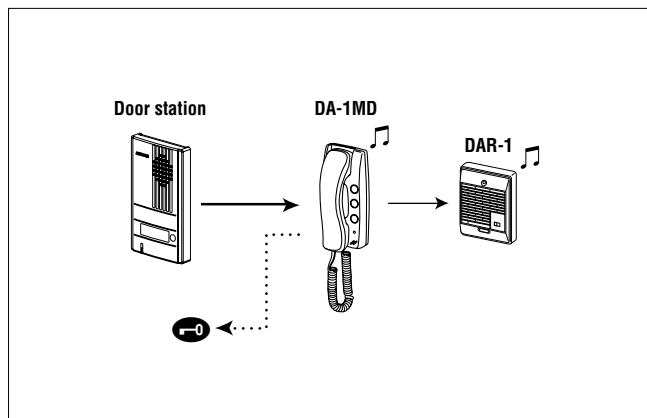


**DAW-P**  
Door station  
mounting plate  
(83.5mm)

### Features

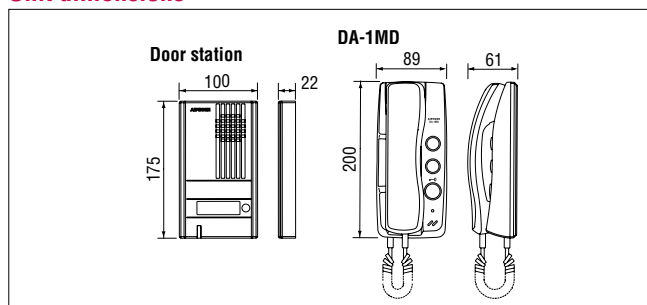
- Two-wire system including door release
- Door release wired to door station, requiring no power transformer
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder

### Communication network

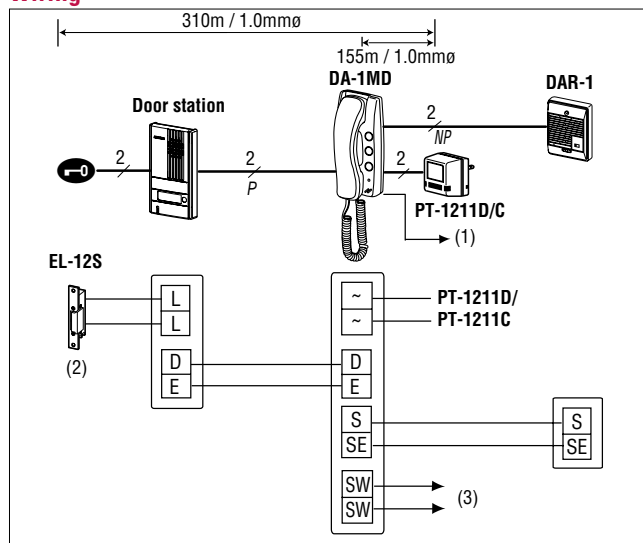


Hold down "CALL" button to ring inside station.

### Unit dimensions



### Wiring



- Place PT-1211D/C inside electrical enclosure and connect to breaker, less than 16A.
- Do not use PT-1211D/C for any other equipment.
- Terminals SW, SW; Dry-closure contact 18V AC, 40mA to connect user-optional function (Gate, Light, Garage, Proximity Access Control, etc.)

(1) External device Relay/Controller

(2) Door release (16V AC, 20Ω or more)

(3) User-optional function (18V AC, 40mA)

### Specifications (DA-1AS, G)

Power source	15V AC
Power supply	PT-1211D, PT-1211C
Communication	Press and hold down Button to call.
Wiring	2 wires, throughout system: AC trans - Master - Door- Door release
Wiring distance	PT-1211D/C ~ Door rise. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211D/C ~ DA-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø)

# Two-Wire Electric Lock Door Phone

## ENTRANCE 1 → 4 TENANT DA-4DS

### Entrance station



**DA-2DS**  
2-call door station



**DA-4DS**  
4-call door station



**DA-4DG**  
4-call door station

### Tenant station



**DA-1MD**  
Master station

**AC transformer**  
**PT-1211D PT-1211C**  
→ P.103

### Lineup



**EL-12S**  
Electric door strike  
→ P.101



**AC-10S**  
Access control keypad,  
surface mount  
→ P.99



**DAR-1**  
Call extension



**AC-10F**  
Access control keypad,  
flush mount  
→ P.99

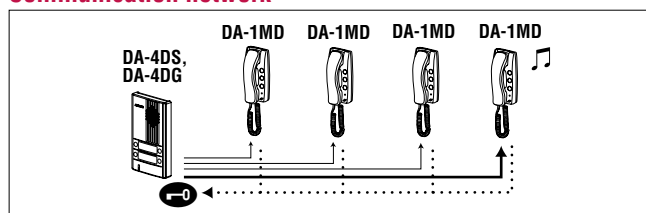


**DAW-P**  
Door station  
mounting plate  
(83.5mm)

### Features

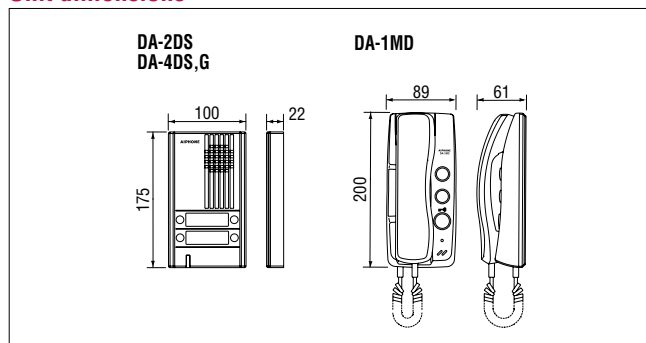
- Two-wire system
- Door release wired to door station, requiring no power transformer
- User-optional function button
- Call tone MUTE with indicator
- Call extension sounder

### Communication network



Electronic tone. Direct select ring.

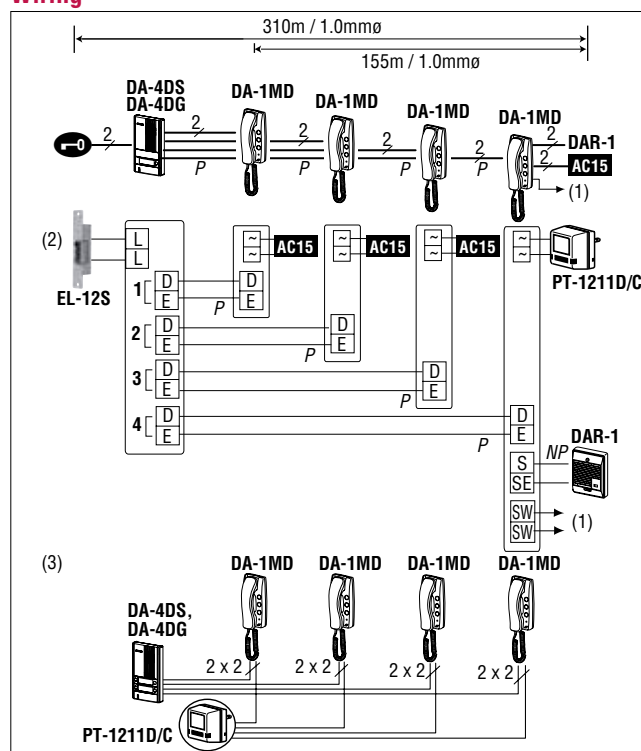
### Unit dimensions



### Specifications (DA-4DS, G)

Power source	15V AC
Power supply	PT-1211D, PT-1211C
Communication	Press and hold down Button to call.
Wiring	2 wires, throughout system: AC trans - Master - Door - Door rise.
Wiring distance	PT-1211D/C ~ Door rise. 110m(0.65mmø) 200m(0.8mmø) 310m(1.0mmø) PT-1211D/C ~ DA-1MD 55m(0.65mmø) 100m(0.8mmø) 155m(1.0mmø)

### Wiring



(1) Ext. device Relay/Controller : User-optional function(AC18V, 40mA) (2) Door release : EL-12S or 16V AC, 20Ω or more (3) When a single common power supply is used

# Chime Tone Intercom

## DOOR 1 ROOM 1 C-123L/A

### Door station



#### C-D

Door station

\*Not available separately

### Master station



#### C-ML/A

Master station

### Power supply

PS-0602D PS-0602C or Batteries

→ P.103

### Lineup



#### AC-10S

Access control keypad,  
surface mount  
→ P.99



#### AC-10F

Access control keypad,  
flush mount  
→ P.99



#### EL-12S

Electric door  
strike  
→ P.101

### Boxed set

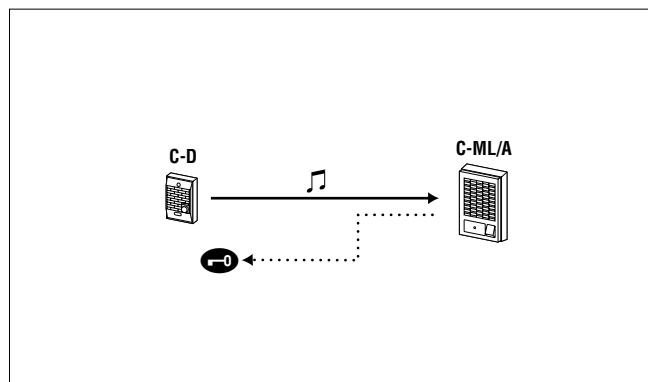
#### C-123L/A

Chime-Com boxed set

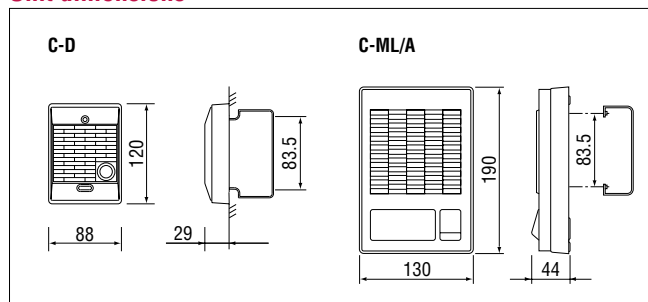
### Features

- Open voice door answering with door release control
- Adjustable communication volume
- Automatically turns off
- Battery or DC power supply

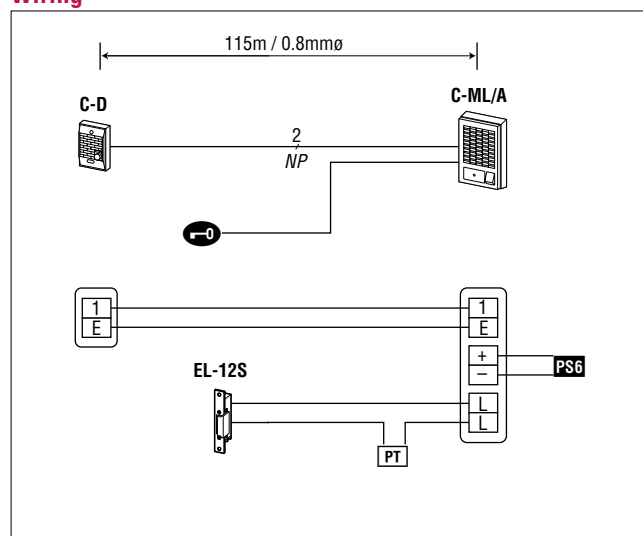
### Communication network



### Unit dimensions



### Wiring



PT : AC transformer PS6 : PS-0602D, PS-0602C

### Specifications (C-123L/A)

Power source	6V DC, 85mA
Power supply	PS-0602D, PS-0602C or Batteries "C"(SUM-2) x 4 pcs.
Communication	Door calls in w/2-tone chime, not adjustable. Press TALK button to reply, release to listen. Power automatically shuts off circuit.
Wiring	2 parallel wires to door, non-polarized (+ 2 for EL-12S).
Wiring distance	Master to door 75m(0.65mmø) 115m(0.8mmø)

# Chime Tone Intercom

DOOR

1

▶

ROOM

1

TCS-MH

Door station



**TC-DC**  
Door station

Master station



**TC-MH**  
Master station

Scheduled for sales termination

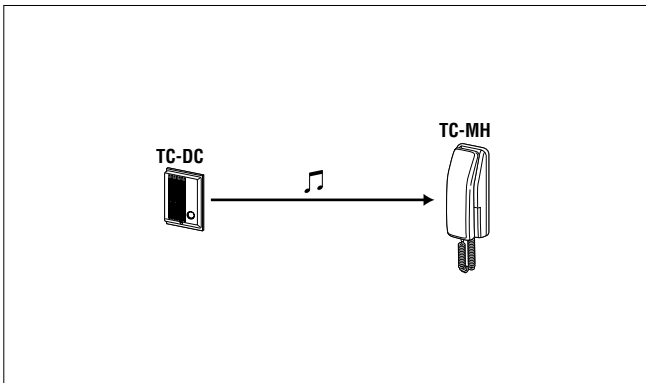
Boxed set

**TCS-MH**  
Chime-Phone set

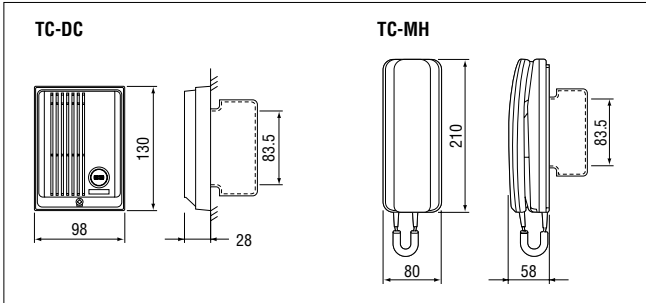
Features

- Chime-phone intercom set, battery-operated
- Adjustable chime volume
- Battery status indicator

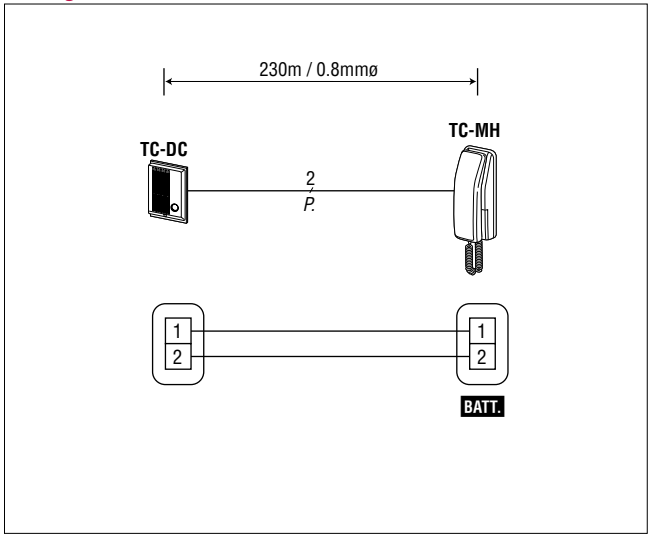
Communication network



Unit dimensions



Wiring



BATT. : Batteries P. Polarized

Specifications (TCS-MH)

Power source	6V DC, 70mA
Power supply	Batteries "AA"(SUM-3) x 4 pcs
Communication	Door calls in w/2-tone chime, adjustable. Pick up to reply.
Wiring	2 parallel wires, polarized.
Wiring distance	TC-MH to door 150m(0.65mmø) 230m(0.8mmø)



# Chime Tone Intercom

## DOOR 1 ROOM 1 IE-1AD(U)

### Door station



**IF-DA**  
Door station  
→ P.71

### Master station



**IE-1AD(U)**  
Master station

### Power supply

12~24V DC power supply  
12~16V AC transformer

### Lineup



**EL-12S**  
Electric door  
strike  
→ P.101



**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



**IER-2**  
Call extension  
→ P.101



**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

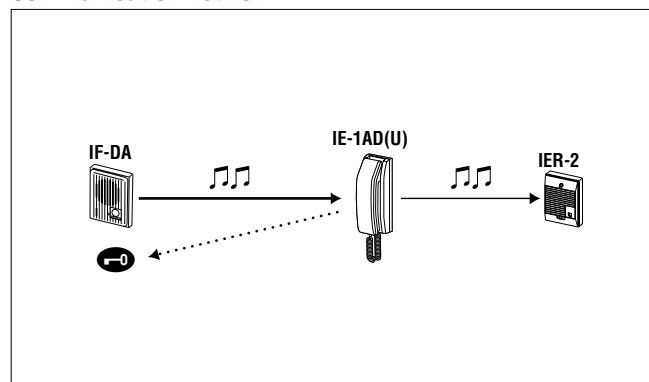


**TAR-3**  
External signaling  
relay  
→ P.71

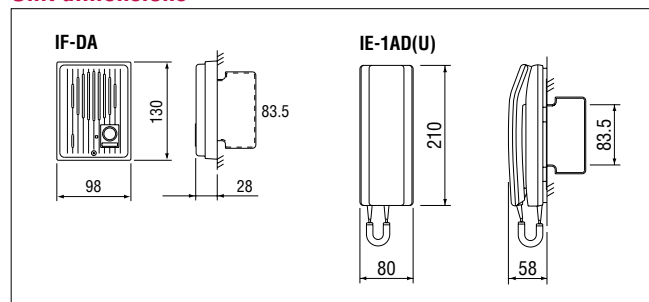
### Features

- Chime tone intercom for 2 locations
- Door release button
- AC or DC power source

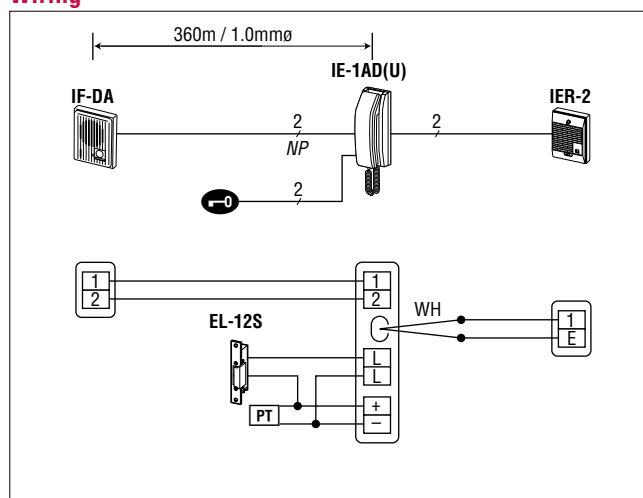
### Communication network



### Unit dimensions



### Wiring



- Run audio wires in a separate jacketed cable from door release wires.

[PT] : AC transformer WH : White(2)

### Specifications (IE-1AD(U))

Power source	12~16V AC, 180mA 12~24V DC, 160mA
Power supply	AC transformer (for IE & EL-12S), PS-1225S/UL.
Communication	Door calls in w/4-tone chime, adjustable. Pick up handset to reply.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires, non-polarized (+2 for EL-12S)
Wiring distance	IE-1AD(U) to door 150m(0.65mmø) 360m(1.0mmø)

# Chime Tone Intercom

## DOOR 1 ROOM 3 IE-1GD(U)

### Door station



**IE-JA**  
Door station  
→ P.71

### Master station



**IE-1GD(U)**  
Master station

### Sub station



**IEH-1CD**  
Sub master station

### Power supply

12~24V DC power supply or  
12~16V AC transformer

### Lineup



**EL-12S**  
Electric door strike  
→ P.101



**AC-10S**  
Access control keypad,  
surface mount  
→ P.99



**IER-2**  
Call extension  
→ P.101



**AC-10F**  
Access control keypad,  
flush mount  
→ P.99

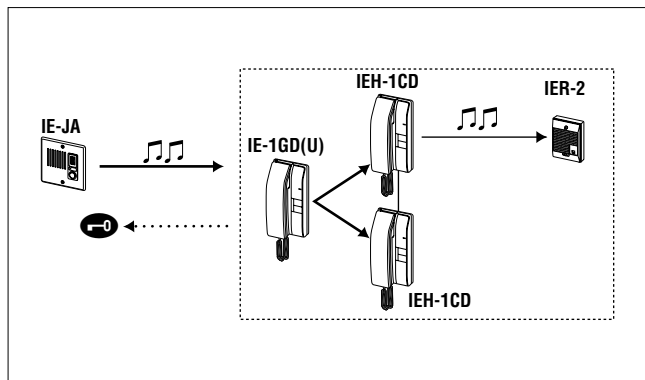


**TAR-3**  
External signaling relay  
→ P.71

### Features

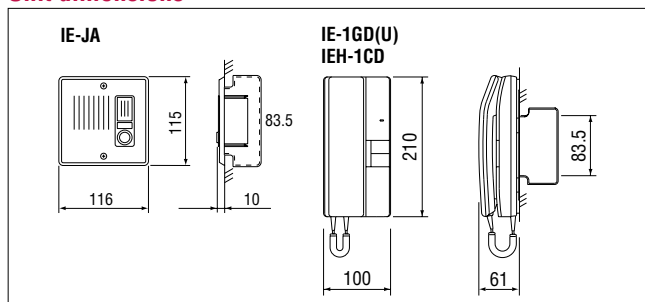
- 3-station chime tone intercom with one door
- Door release button
- All call type room calling
- Chime tone cutout at sub station
- AC or DC power source

### Communication network

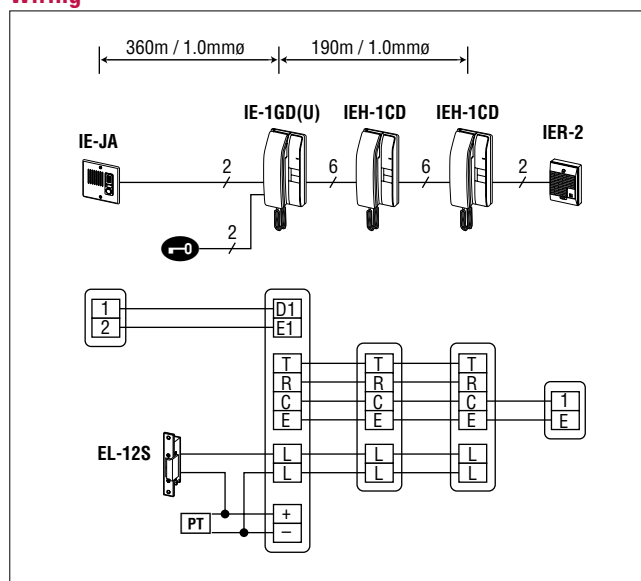


All Call type calling with pretone & voice

### Unit dimensions



### Wiring



- Run audio wires in a separate jacketed cable from door release wires.

PT : AC transformer

### Specifications (IE-1GD(U))

Power source	12~16V AC, 200mA 12~24V DC, 200mA
Power supply	AC transformer 12~16V, 550mA (for both IE & EL-12S), PS-1225S/UL
Communication	Door calls in w/4-tone chime to all stations. Chime can be cut out at sub(s). Pick up any station to reply. Press CALL to call other inside stations with pretone & voice.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires to door, non-polarized. 6 wires in loop, between rooms.
Wiring distance	IE-1GD(U) to door 150m(0.65mmø) 360m(1.0mmø) Between rooms 75m(0.65mmø) 190m(1.0mmø)

# Chime Tone Intercom

DOOR

2

ROOM

3

## IE-2A2DU

### Door station



**IE-JA**  
Door station  
→ P.71



**IF-DA**  
Door station  
→ P.71  
**Power supply**  
12~24V DC power supply  
12~16V AC transformer

### Master station



**IE-2A2DU**  
Master station, 2 door releases



**IE-2AD(U)**  
Master station

### Sub station



**IEH-1CD**  
Sub master station

**IEH-1C2D**  
2 door release

### Lineup



**EL-12S**  
Electric door strike  
→ P.101



**AC-10S**  
Access control keypad, surface mount  
→ P.99



**IER-2**  
Call extension  
→ P.101



**AC-10F**  
Access control keypad, flush mount  
→ P.99

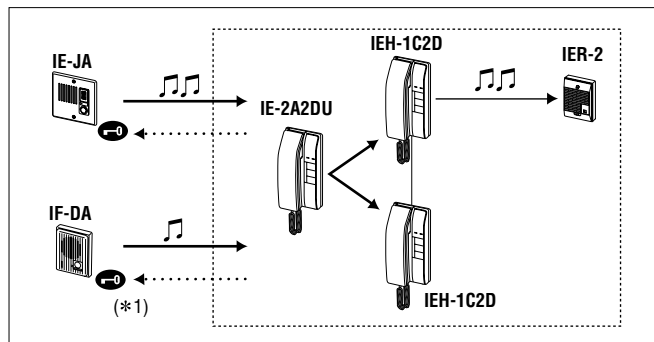


**TAR-3**  
External signaling relay  
→ P.71

### Features

- 3-station chime tone intercom
- 2 door stations w/door release
- All call type room calling
- Chime tone cutout at sub station
- Door selective monitoring at master station
- AC or DC power source

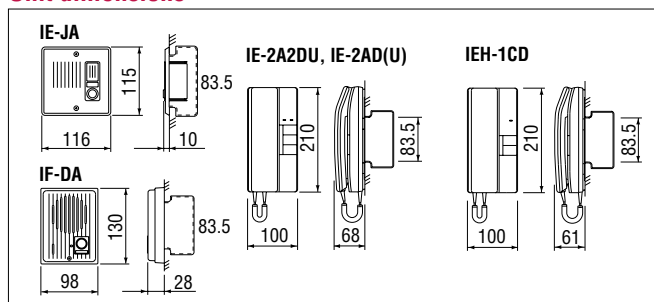
### Communication network



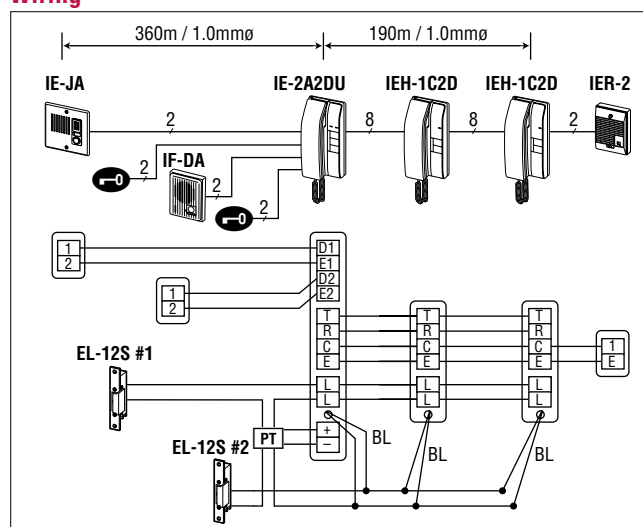
All call type voice calling between rooms

(\*1) Available in IE-2A2DU or IE-2AD(U) w/RV-3DL

### Unit dimensions



### Wiring



BL : Blue(2) PT : AC transformer

### Specifications (IE-2A2DU)

Power source	12~16V AC, 200mA 12~24V DC, 200mA
Power supply	AC transformer 12~16V AC, 550mA (for both IE & EL-12S). PS-1225S/UL
Communication	Door calls in w/4- or 2-tone chime to all stations, 45 sec. Chime can be cut out at sub. Pick up any station handset to reply. Press CALL to call other stations with pretone & voice.
Door release	Contact rating: 24V AC/DC, 500mA
Wiring	2 parallel wires, non-polarized. 6 wires in loop, rooms.
Wiring distance	IE-2A2DU to door 150m(0.65mmø) 360m(1.0mmø) Between rooms 75m(0.65mmø) 190m(1.0mmø)

# Chime Tone Intercom

## DOOR 2 ROOM 6 IE-8MD

### Door station



**IE-JA**  
Door station  
→ P.71



**IF-DA**  
Door station  
→ P.71

### Power supply

**PS-1225S PS-1225UL** → P.103  
**PS-1820S PS-1820UL** → P.103

### Master station



**IE-8MD**  
6-call master

### Sub station



**IE-8HD**  
6-call sub master

### Lineup



**EL-12S**  
Electric door strike  
→ P.101



**AC-10S**  
Access control keypad, surface mount  
→ P.99



**TAR-3**  
External signaling relay  
→ P.71



**AC-10F**  
Access control keypad, flush mount  
→ P.99

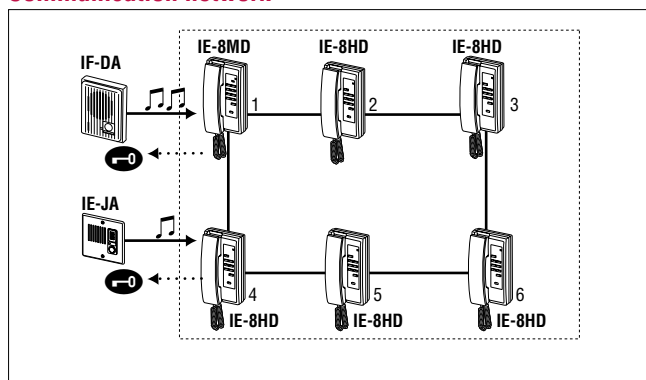


**RY-AC/A**  
External signaling relay  
→ P.101

## Features

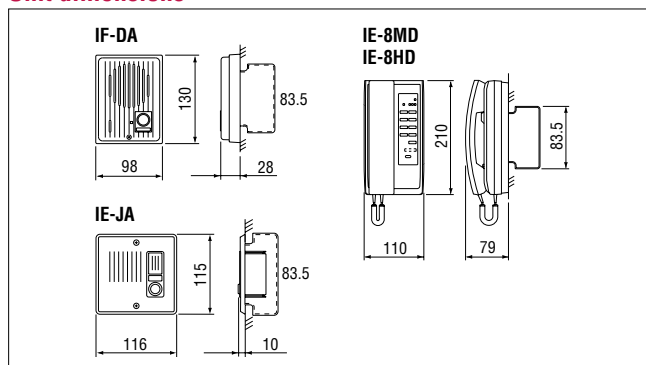
- Expandable to 6-station system
- Selective or All Call between inside stations
- Door select and monitor button (on IE-8MD only)
- AC or DC power source
- Selective door release control
- Chime tone cutout on inside stations, selectable

## Communication network

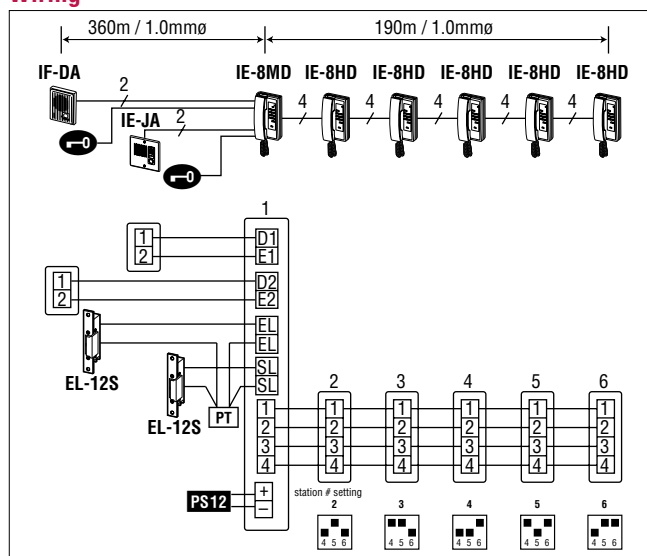


Internal communication by Selective Call or All Call. Chime tone can be muted at each station selectively.

## Unit dimensions



## Wiring



**PT** : AC transformer **PS12** : PS-1225S/UL **PS18** : PS-1820S/UL or AC transformer

## Specifications (IE-8MD)

Power source	12~16V AC, 900mA 12~18V DC, 500mA
Power supply	<b>Intercom only</b> ; 12V or 18V DC power supply. AC transformer 12V AC, 10VA or 16V AC, 14VA w/no load voltage 20V or less. <b>Intercom + EL-12S</b> ; 12V AC, 10VA only
Communication	Door calls in w/4- or 2-tone chime and LED, 45 sec. Pick up any handset to reply. Press 1 ~ 6 to call other station with pretone and voice or All Call. Single channel, common talk system.
Door release	Contact rating: 24V AC/DC, 350mA
Wiring	2 parallel wires, to door. 4 wires in loop, between rooms.
Wiring distance	IE-8MD to door 150m(0.65mmø) 360m(1.0mmø) Rooms 75m(0.65mmø) 190m(1.0mmø)

# Audio Door Stations

## IE/IF Series

### Surface mount station



**IF-DA**  
Door station



**AX-DM**  
Audio door station  
Mullion type

### Flush mount station

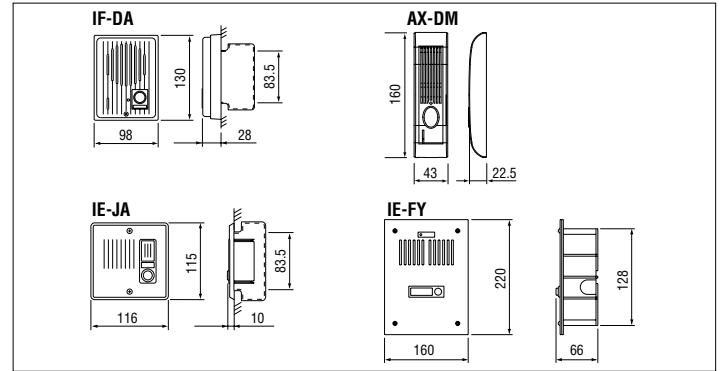


**IE-JA**  
Door station



**IE-FY**  
Door station

### Unit dimensions



### Specifications

Wiring	2 parallel wires to master, non-polarized
Wiring distance	150m(0.65mmø) 230m(0.8mmø) 360m(1.0mmø)

### Features

- Weather resistant audio door stations
- Hands-free communication
- Call button rings chime or tone at inside station

### Some applications

- At multiple doors w/TB-AD10

### Used for

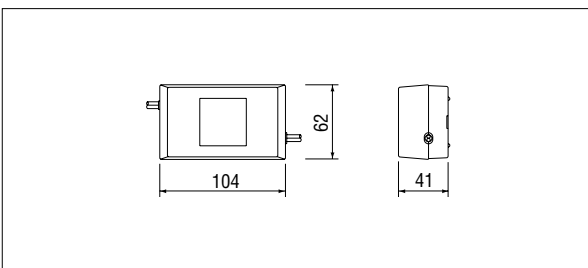
IE-1AD(U), IE-1GD(U),  
IE-2AD(U), IE-8MD,  
TD-nH/B w/DE-UR  
(n=3, 6, 12 & 24)  
TC-M w/TB-AD1  
TC-M w/TB-AD10  
AX

## Accessories

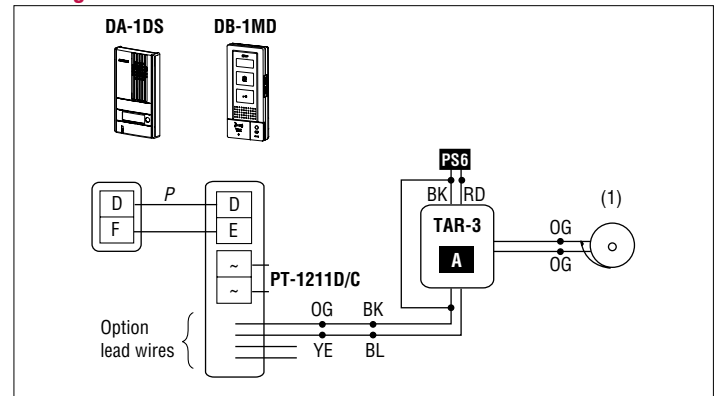
### Relay



### Unit dimensions



### Wiring



(1) Bell, etc. PWR : Power source

BL : Blue BK : Black(-) RD : Red(+) OG : Orange YE : Yellow

PS6 : PS-0602D, PS-0602C

### Specifications (TAR-3)

Power source	6V DC, supplied by PS-0602D, PS-0602C
Contact rating	0.3A, 240V AC 1.0A, 24V DC

Doorbell or buzzer must be AC operated or DC mechanical type only.

### Features

Allows integration of a doorbell, etc. to intercom. The device will be activated as long as handset is ringing. When the intercom is picked up, the device will no longer be activated.

### Used for

DB-1MD  
IE chime tone  
IE-8MD  
AT-406  
TB-SE(TC-M)



# INTERCOM SYSTEM

Intercom systems for a variety of facilities where effective communication is needed.



## Lineup

7-inch Touchscreen Color Video Intercom  
JP-4MED



P73

Open Voice Intercom  
LEM system



P75~

Open Voice Intercom  
LEF system



P77~

Hands-free Intercom  
DB-1MD



P81

Handset Intercom  
AT-406



P81

Handset Intercom  
YAZ-90-3W



P82

Handset Intercom  
TD-H/B



P83~

Security Window Intercom  
IMU-100



P85~

Master / Sub Intercom  
TC-M



P87~

Market-Com  
MC-60/4A



P90

Mid-Power Intercom  
MP-S



P91

High-Power Intercom  
AP-M



P92

Nurse Call  
NHX



P93~

INTERCOM SYSTEM

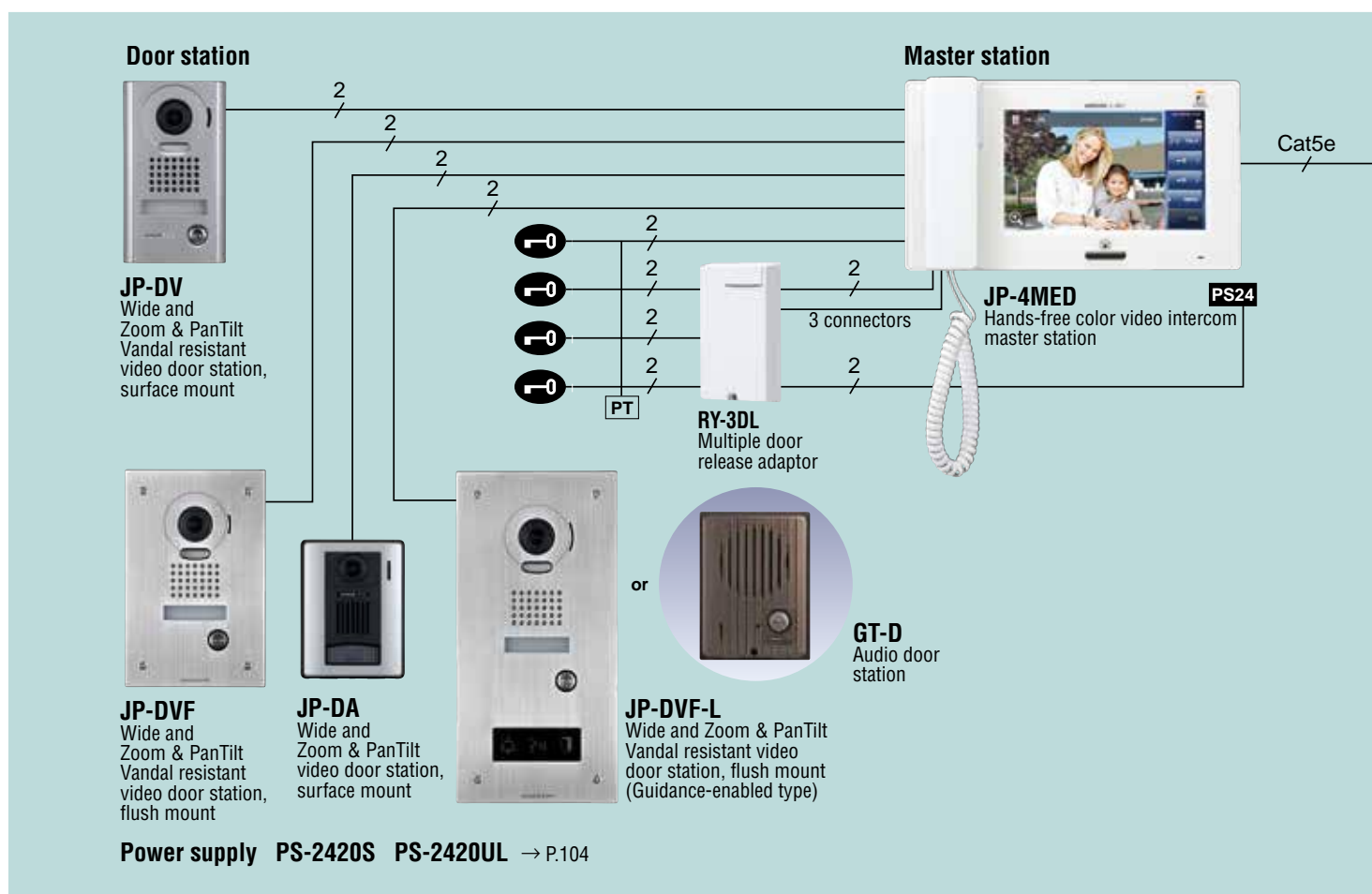
# 7-inch Touchscreen Color Video Intercom

**NEW**

DOOR **4** ► ROOM **8** **JP-4MED**

## Features

- 7-inch touchscreen for operation
- Hands-free or handset audio communication
- Zoom/wide and pan & tilt video monitoring function
- Video image adjusting function
- Record visitor images both automatically & manually



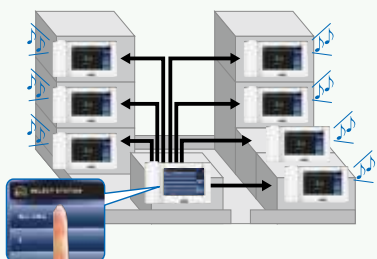
INTERCOM SYSTEM

## Features

### Internal communication

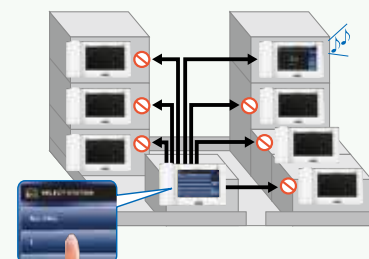
#### All call

Simultaneously make an announcement to all master stations.



#### Individual call

Select a single master station to call.



### Audio monitoring of other master stations



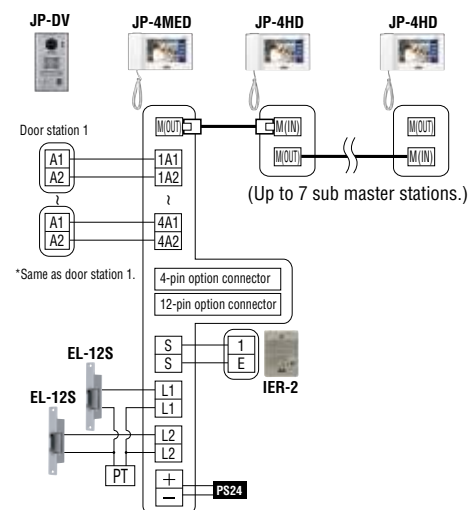
Monitoring



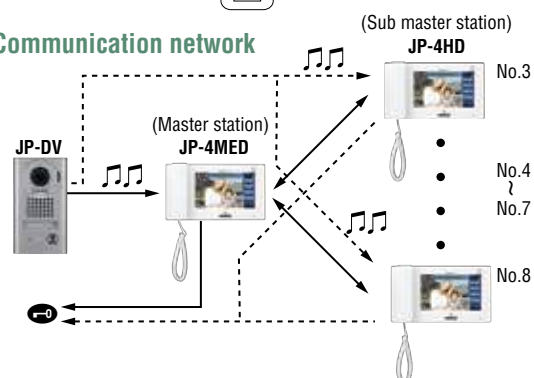
All stations can be set to audibly monitor other master stations.

## Wiring

Refer to P.5 for details



## Communication network



The design and specifications are subject to change without notice for improvement.

- 3 wiring methods selectable  
(Station-to-station, Homerun, or combined wiring)
- 2 internal calls selectable (All call or Individual call)
- Audio monitoring of other master stations
- Option: 3 sensors connectable to the master station



Commercial



Residential



Retail Shops



Factories



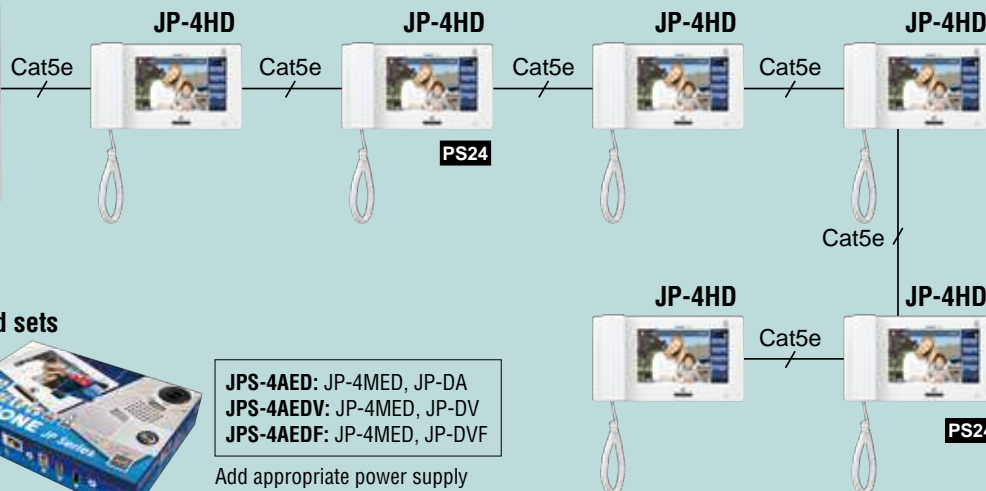
Schools

## Sub master station



### JP-4HD

Hands-free color video intercom  
sub master station



## Boxed sets



**JPS-4AED:** JP-4MED, JP-DA  
**JPS-4AEDV:** JP-4MED, JP-DV  
**JPS-4AEDF:** JP-4MED, JP-DVF

Add appropriate power supply

## Access Control → P.99



### AC-10S

Access control  
keypad,  
surface mount



### AC-10F

Access control  
keypad,  
flush mount



**JP-DV + AC-10S**

## Lineup



### JPW-BA

Long distance adaptor  
→ P.6



### JP-8Z

Distribution adaptor



### EL-12S

Electric door strike  
→ P.101

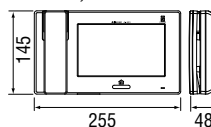


### RY-3DL

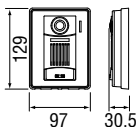
Multiple door  
release adaptor  
→ P.6

## Unit dimensions

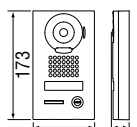
### JP-4MED, JP-4HD



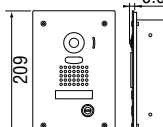
### JP-DA



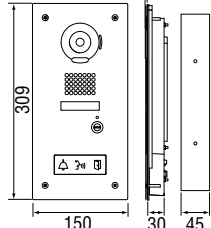
### JP-DV



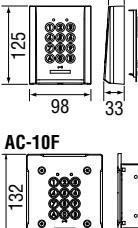
### JP-DVF



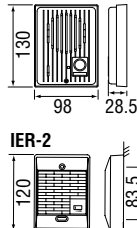
### JP-DVF-L



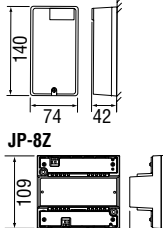
### AC-10S



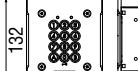
### GT-D



### RY-3DL



### AC-10F



### IER-2



### JP-8Z



## Specifications (JP-4MED, JP-4HD)

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	Max. 340mA (JP-4MED). Max. 200mA (JP-4HD)
Calling	Chime. Image & audio, approx. 45 or 90 sec.
Communication	Automatic (Hands-free): approx. 1 min. To activate, touch TALK button. Handset: approx. 3 min. To activate, lift handset.
Video monitor	7-inch color LCD screen
Pixels	1,150,000 pixels
Video output	NTSC/PAL, 1Vp-p/75Ω
Night viewing	Up to 50cm from camera, with white LED projected, background beyond 50cm cannot be seen.
Door release	24V AC/DC, 500mA (N/O dry closure contact)
Option output	24V AC/DC, 1A (N/O dry closure contact)
Wiring	Door to master: 2-cond., mid cap, solid, non-shielded. Master to sub: CAT5e
Wiring distance (→ P.5)	Door to Master: 100m (1.0mmø) Master to farthest sub: 300m (CAT5e)

Also refer to P. 3-6 for details.

# Open Voice Intercom

## DOOR 1 ROOM 1 LEM-1DL

### Door station



**LE-D**  
Sub station  
→ P.80



**EL-12S**  
Electric door  
strike  
→ P.101



**LE-DA**  
Sub station  
→ P.80



**LE-DL**  
Sub station  
→ P.80

### Master station



**LEM-1DL**  
Master station

### Lineup



**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



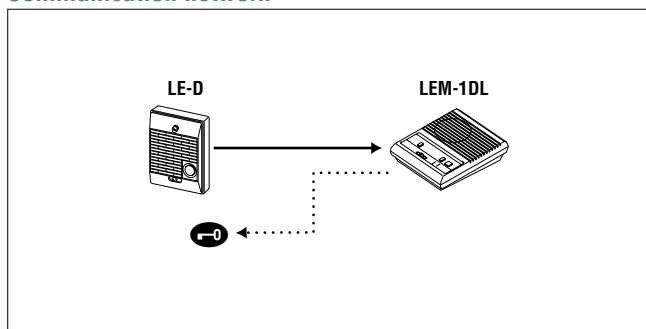
**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

**Power supply**  
**PS-1225S PS-1225UL**  
→ P.103

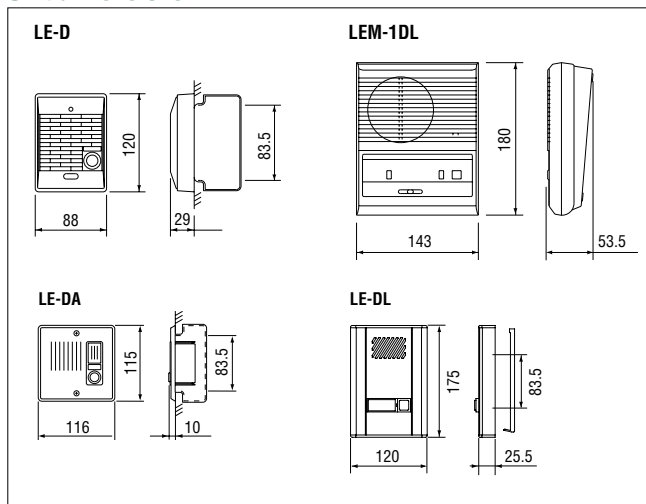
### Features

- Single door open voice access control system
- Adjustable transmit (front) and tone volumes
- AC/DC power supply

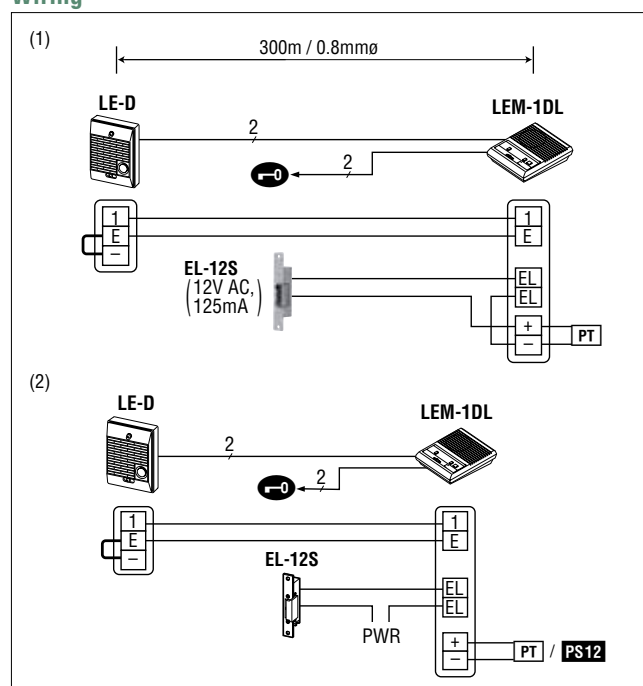
### Communication network



### Unit dimensions



### Wiring



(1) Using EL-12S door release

(2) Using door release of other manufacture rated : 30V AC/DC, 1A max.  
Do not remove shorting link on LE-D. PWR : Power source

### Specifications (LEM-1DL)

Power source	12~16V AC, 4VA 12~24V DC, 200mA (24V)
Power supply	AC transformer, PS-1225S, PS-1225UL
Communication	When called by tone, press TALK to reply. Press door release button to release door, and press OFF for standby.
Wiring	2 wires, non-polarized (+2 for EL-12S)
Wiring distance	LEM-1DL to door 200m(0.65mm <sup>2</sup> ) 300m(0.8mm <sup>2</sup> )



# Open Voice Intercom



## Master station



**LEM-1**  
1-call master



**LEM-3**  
3-call master

**Power supply**  
**PS-0602D PS-0602C** → P.103

## Door station



**LE-D**  
Sub station  
→ P.80



**LE-DA**  
Sub station  
→ P.80

## Room sub station



**LE-A**  
Sub station  
→ P.80

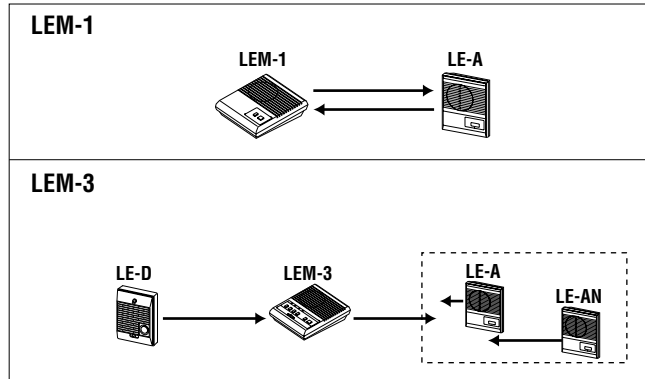


**LE-AN**  
Privacy sub  
→ P.80

## Features

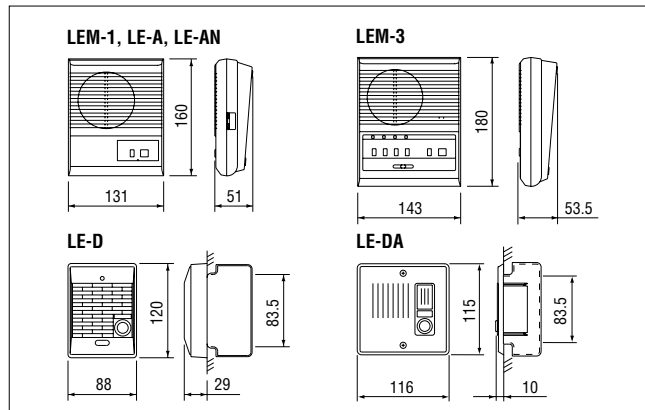
- Open voice communication
- Push-to-talk at master, hands free at remote
- LE sub stations: either door station or room sub station
- Voice volume control

## Communication network

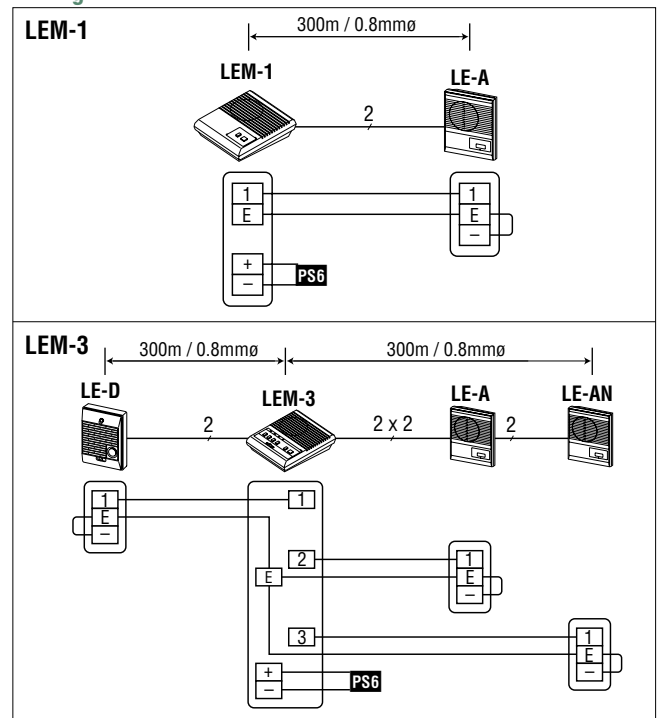


LEM-1; Tone or voice. LEM-3; Selective call w/tone or voice. Tone and LED from sub

## Unit dimensions



## Wiring



★ Do not remove shorting link on subs. **PS6** : PS-0602D, PS-0602C

## Specifications (LEM)

Power source	6V DC, 200mA
Power supply	PS-0602D, PS-0602C
Communication	Sub calls in w/tone and LED, 20 sec. Depress selector button and press or release TALK button. Sub called by tone or voice. Reply hands-free.
Output	350mW output, adjustable
Wiring	2 parallel wires per sub, non-polarized
Wiring distance	LEM to sub 200m(0.65mmø) 300m(0.8mmø)



# Open Voice Intercom

STATION

# 11 LEF

## Master station



**LEF-3**  
3-call master

**LEF-3L**  
3-call master w/  
door release button

## Master station



**LEF-5**  
5-call master

**LEF-5W**  
5-call master  
w/terminal box



**LEF-10**  
10-call master

**LEF-10W**  
10-call master  
w/terminal box



**LEF-10S**  
10-call master (all call)

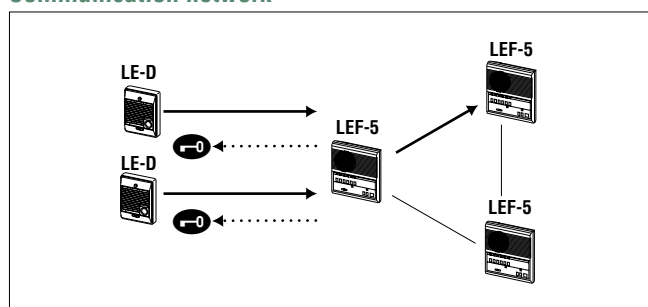
## Power supply

**PS-1225S PS-1225UL** → P.103

## Features

- Intermixable system with any number of masters and subs to max. capacity
- Selective calling from any master with hands-free reply
- LEF surface and LEF-C semi-flush units can be intermixed
- Variety of sub stations are available
- Weather-resistant door stations (any number) with selective door release
- System options: All Call/Music/Chime
- Selective door release with LEF-5/10/10S (w/RV-PA)

## Communication network



Selective call between inside stations. Answering & releasing door from any inside station

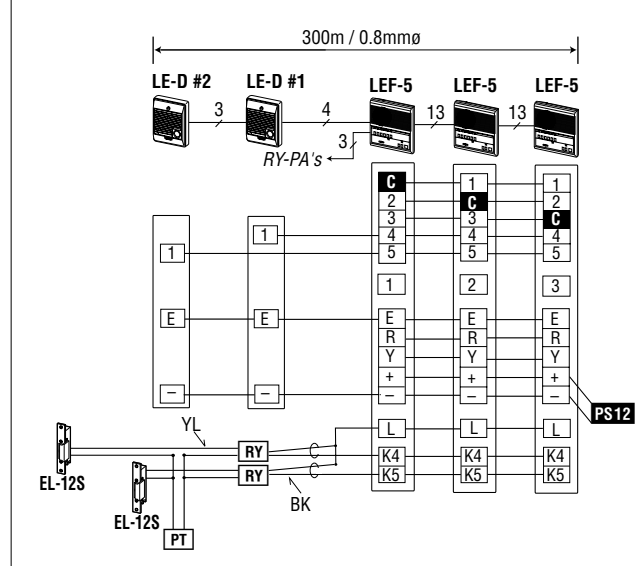
## Cabling

Models	Capacity	Cable
LEF-3	4 stations	9 wires
LEF-5	6 stations	11 wires (+5: K1~K5*)
LEF-10	11 stations	17 wires (+10: K1~K10*)
LEF-10S	11 stations	20 wires (+10: K1~K10*)

- K1 ~K10: Control terminals for video, door release.
- LEF-3 does not have L terminal.
- Door & inside sub stations can ring 2 or 3 LEF masters.
- LEF All-master trunk cable=5 (or 6) common + no.of LEF (& subs)

## Wiring

### Door answering w/selective door release



**PS** : PS-1225S, PS-1225UL **PT** : AC transformer  
Terminal 4 : for LE-D #1, Terminal 5 for LE-D #2.  
YL : Yellow(2) BK : Black(2).

## Door station



**LE-D**  
Sub station  
→ P.80



**LE-DA**  
Sub station  
→ P.80

## Room sub station



**LE-A**  
Sub station  
→ P.80



**LE-AN**  
Privacy sub  
→ P.80



**LE-A3**  
3-call sub  
→ P.80



**LE-AN3**  
3-call privacy sub  
→ P.80

## All call, music & chime



**BG-10C**  
All call, chime & music  
adaptor  
→ P.80

## Lineup



**EL-12S**  
Electric door  
strike  
→ P.101



**RY-PA**  
Door release relay  
→ P.101



**LEW-5**  
LEF-5 terminal  
box

**LEW-10**  
LEF-10 terminal  
box

**LEW-10S**  
LEF-10S terminal  
box



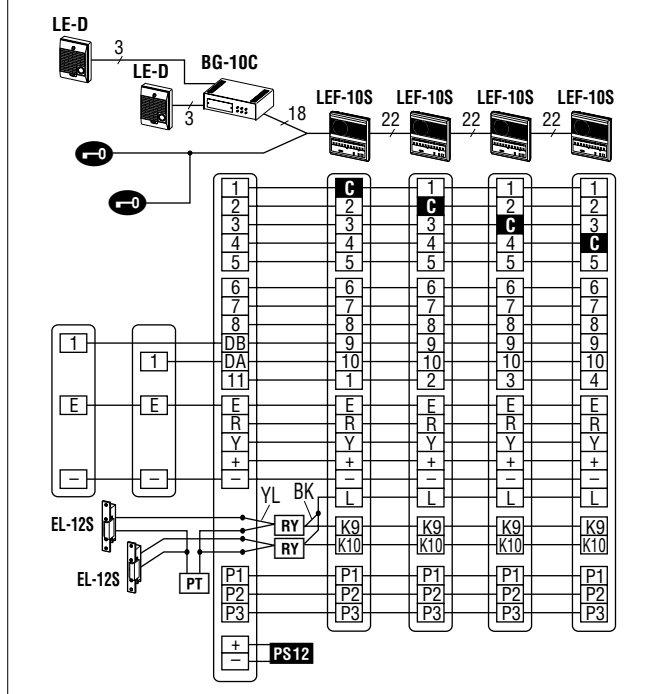
**AC-10S**  
Access control  
keypad,  
surface mount  
→ P.99



**AC-10F**  
Access control  
keypad,  
flush mount  
→ P.99

## Wiring

### Intermixed configuration



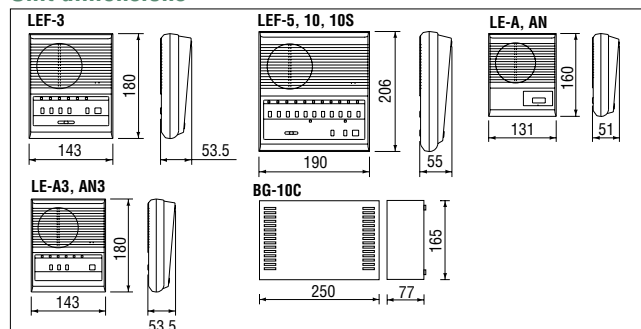
3 wires per sub. Run 3 wires to subs individually, or use multi-conductor cable to wire multiple subs (2 common + 1 per sub).

- LE-D call-in chimes on LEF stations.
- Only LEF-10S station can transmit all call.
- Match door release control terminals (Kn) with door selector #10 with K10, #9 with K9.

★ Remove a shorting link on LE subs.

**PS12** : PS-1225S, PS-1225UL **PT** : AC transformer **RY** : RY-PA

## Unit dimensions



## Specifications (LEF)

Power source	12V DC, 300mA per LEF station.
Power supply	PS-1225S, PS-1225UL
Communication	Sub calls in w/(chime) tone & LED, 20 sec. Depress the LED lit selector button. Use TALK/LISTEN switch. Master calls in w/tone or voice (no LED lit). Reply hands-free. To call, depress a selector, and call by voice or tone.
Door release	Contact: 30V DC, 0.1A (resistance load).
Selector switch	Contact: 12V DC, 30mA.
Wiring	5 wires common + no. LEF (& subs) (all-master system) 2 wires per sub (single-master system). * E to - link remains attached. LE subs: 3 wires with the link removed (when intermixed)
Wiring distance	Farthest LEF's 200m(0.65mmø) 300m(0.8mmø)

## Specifications (BG-10C)

Power source	12V DC, 2.5A (music max. output). 1.5A(music, chime & all call). 0.1A standby
All call transmit	From LEF-3C, 5C, 10C & LEF-1C and LEF-10S
All call receive	All LEF master station
Chime tone transmit	AUX R, E and AUX L, E
Controls	Music on/off. 11 selector switches of music & chime, chime only or off.
Wiring	19 wires max. BG-10C to LEF-10C. 3 wires to each LE-D, DA.
Wiring distance	BG-10C to LEF-C 150m(0.65mmø). 230m(0.8mmø) LE-D/DA to BG-10C 200m(0.65mmø). 300m(0.8mmø).

# Open Voice Intercom

## DOOR 3 ROOM 8 LEF-C

### Door station



**LE-D**  
Sub station  
→ P.80

### Master station



**LEF-3C**  
3-call master

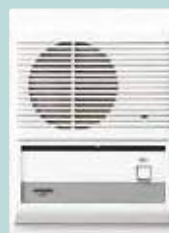


**LEF-5C**  
5-call master



**LEF-10C**  
10-call master

### Sub station



**LE-B\***  
Sub station  
\*Not available in Europe



**LEF-1C**  
All call sub master

**LE-BN\***  
Privacy sub  
\*Not available in Europe

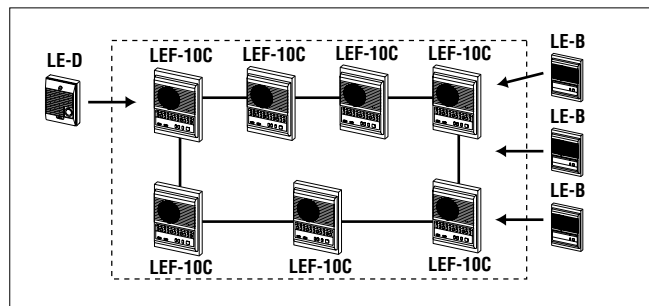
### Power supply

**PS-1225S PS-1225UL** → P.103

### Features

- Intermixable system with any number of masters and subs to max. capacity
- Selective calling from any master with hands-free reply
- LEF surface and LEF-C semi-flush units can be intermixed
- Variety of sub stations are available
- Weather-resistant door stations (any number) with selective door release
- System options: PanTilt door/monitor(s), All Call/Music/Chime
- Selective door release with LEF-5/10/10S (w/RY-PA)

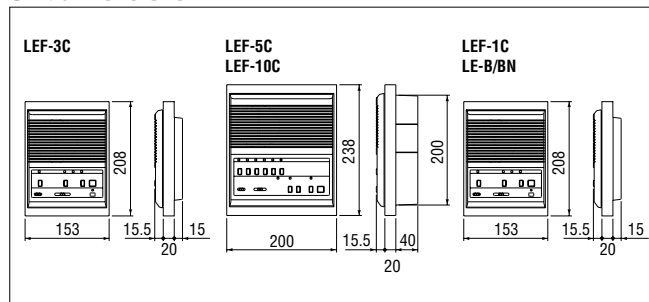
### Communication network



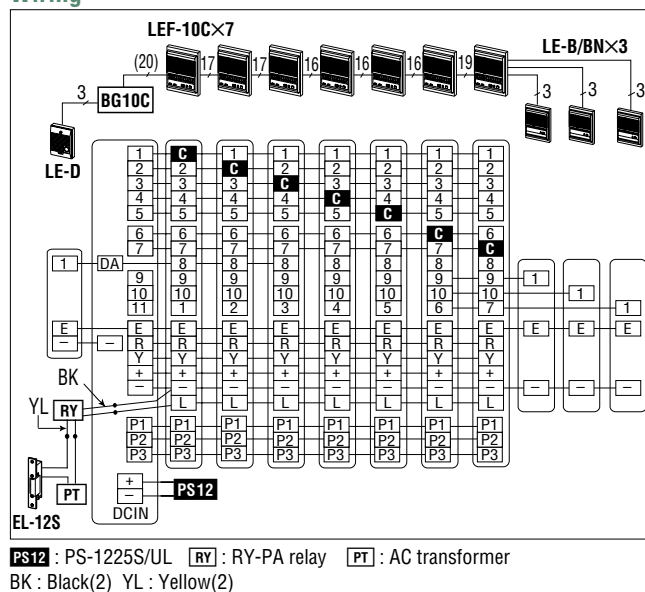
### Intermixed configuration

Internal communication by Selective call. Sub calls in with tone & LED 20 sec.

### Unit dimensions



### Wiring



### Specifications (LEF-C)

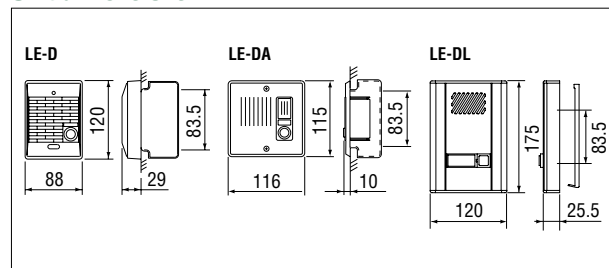
Power source	12V DC, 300mA per station.
Power supply	PS-1225S, PS-1225UL
Communication	Sub/door calls in w/tone & LED, 20 sec. Depress the LED lit selector button. Depress TALK/LISTEN switch. The LED stays lit while in use. Single talk channel w/OCCUPIED lit.
Output	800mW at 20Ω (receive). 500mW at 20Ω (transmit).
Door release	Contact: 110V AC, 1A. 24V DC, 1A. (on RY-PA output).
Selector switch	Contact: 12V DC, 1A. (K terminals)
Wiring	5 or 6 common + no. all stations
Wiring distance	Farthest LEF-C's 200m(0.65mmØ) 300m(0.8mmØ)

# LE Sub stations & Accessories

## Weather-resistant sub

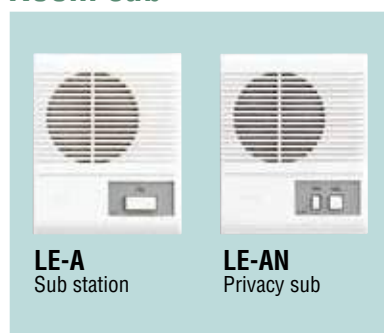


### Unit dimensions

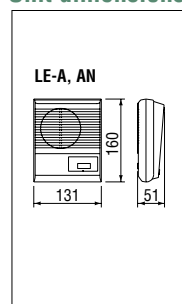


LE-DA; 2-gang mounting

## Room sub



### Unit dimensions

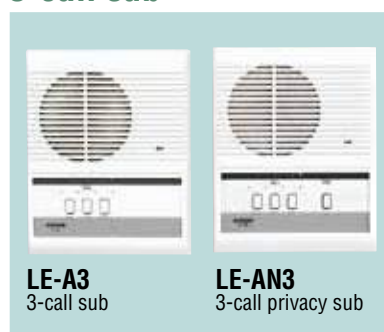


## Semiflush mount sub

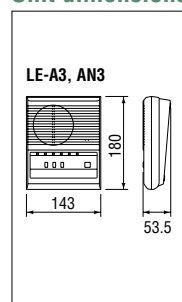
\*Not available in Europe



## 3-call sub



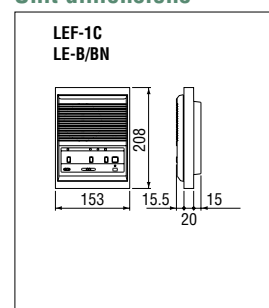
### Unit dimensions



## All call sub master



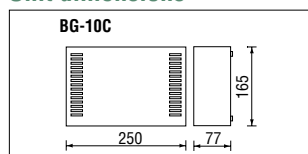
### Unit dimensions



## All call/music/chime adaptor



### Unit dimensions

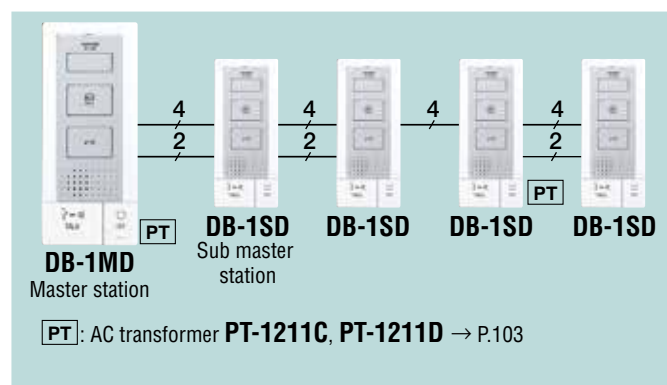


### Specifications (BG-10C)

Power source	12V DC, 2.5A (music max. output). 1.5A(music, chime & all call). 0.1A standby
All call transmit	From LEF-3C, 5C, 10C & LEF-1C and LEF-10S
All call receive	All LEF master station
Chime tone transmit	AUX R, E and AUX L, E
Controls	Music on/off. 11 selector switches of music & chime, chime only or off.
Wiring	19 wires max. BG-10C to LEF-10C. 3 wires to each LE-D, DA.
Wiring distance	BG-10C to LEF-C 150m(0.65mmø). 230m(0.8mmø) LE-D/DA to BG-10C 200m(0.65mmø). 300m(0.8mmø).

# Hands-free Intercom

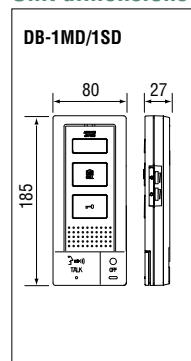
## MASTER 1 ▶ SUB 4 DB-1MD



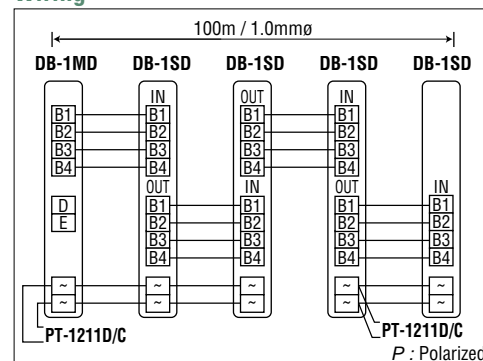
### Features

- Total hands-free communication, auto-voice actuation
- Press-to-talk operation available
- Up to 5 stations
- All call for internal communication

### Unit dimensions



### Wiring



### Specifications (DB-1MD, 1SD)

Power source	15V AC
AC transformer	PT-1211C, PT-1211D
Communication	Approx. 10 min. AUTOMATIC (Hands-free); To activate, momentarily press TALK button. MANUAL (Press-to-talk/Release-to-listen); To activate, press TALK button twice.

Wiring distance	PT-1211C/D ~ DB-1MD 55m(0.65mmø)
	100m(0.8mmø) 155m(1.0mmø)
	DB-1MD ~ farthest DB-1SD 100m(0.65 ~ 1.0mmø)

# Handset Intercom

## MASTER 1 ▶ SUB 3 AT-406

### Features

- Handset master-sub intercom w/2 additional subs (optional)
- Battery status LED
- Batteries or DC power supply
- Buzzer or bell activation (optional)

**Master station**

Master station

**Sub station**

**AT-306**  
Sub station

**Boxed set**

**AT-406**  
Boxed set (white color)

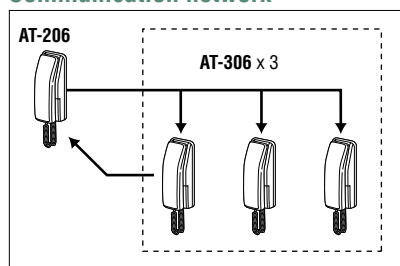
**AT-406B/A**  
Boxed set (charcoal gray)

**Lineup**

**TAR-3**  
External signaling relay  
→ P.102

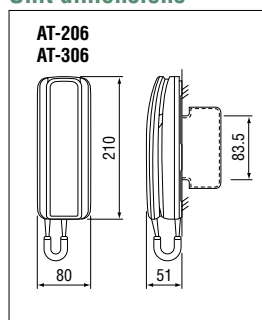
**Power supply**  
**PS-0602D PS-0602C** or Batteries → P.103

### Communication network

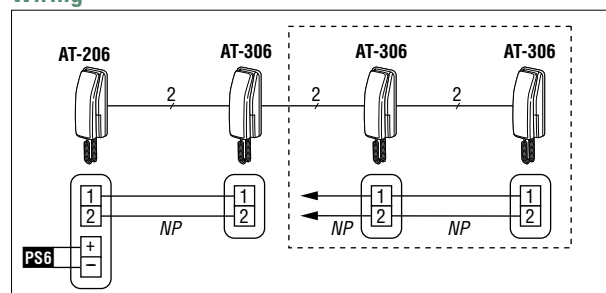


Master calls all the subs simultaneously, while the sub rings the master only.

### Unit dimensions



### Wiring



### Specifications (AT-406)

Power source	6V DC, 150mA
Power supply	PS-0602D, PS-0602C or Batteries "AA" (SUM-3) x 4 pcs
Communication	Press CALL button to ring all subs. Pick up any phone. Sub rings master only. Common talk.

Wiring	2 parallel wires. non-polarized
Wiring distance	2-station set 700m(0.65mmø) 1000m(0.8mmø) AT-206 to subs 1~3 400m(0.65mmø) 600m(0.8mmø)



# Handset Intercom

STATION

## 90 YAZ-90-3W

### Phone extension



**Power supply**  
PS-2420S PS-2420UL  
→ P.104

**YAZ-90-3W**  
Phone master station

### Lineup

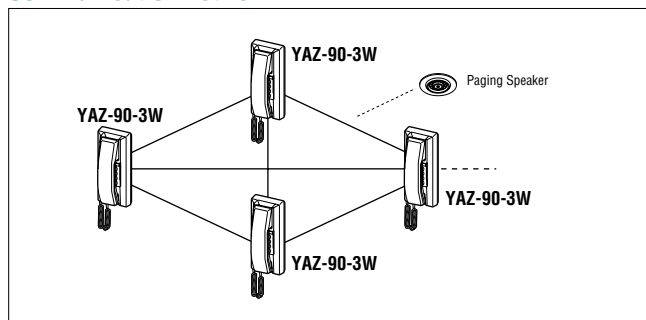


**YAW-RB**  
1-zone paging  
adaptor  
for YAZ-90-3W

### Features

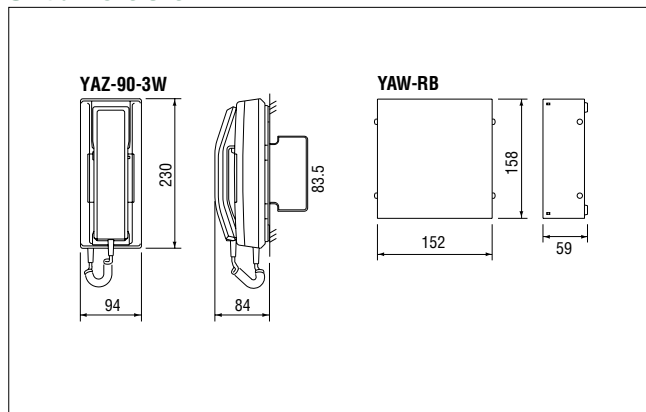
- Microprocessor built-in intercom expandable to max. 90 stations on 4-pair cable
- Up to 2.9km wiring distance
- Zone paging
- Communication functions: Camp-on busy, secretary transfer, call transfer
- Line-off trouble on one channel does not affect the other channels

### Communication network

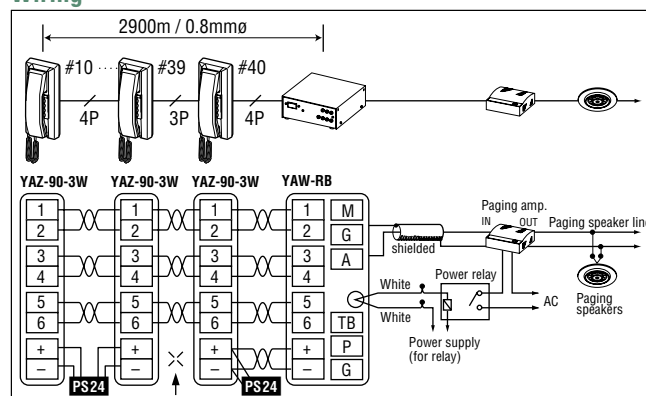


Station to station communication in any pair

### Unit dimensions



### Wiring



- Remove +, - wires between YAZ stations of different blocks. Within a block locate a power supply in the center of cable run, and make groups of max. 10 YAZ stations. As shown, connect +, - wires from the power supply to each group's initial YAZ station.

**PS24** : PS-2420S, PS-2420UL

### Specifications (YAZ-90-3W)

Power source	24V DC, 150mA max. 20mA standby.
Power supply	PS-2420S, PS-2420UL per 30-station block.
Communication	Dial 2-digit station # to ring other station with tone or voice pressing PAGE. Privacy communication on each channel (max. 3).
Line loop resistance	Must not exceed 200Ω for farthest stations. 20Ω for power line.
Wiring	4-twisted pairs (shielded) in loop.
Total wiring distance	Farthest YAZ's 1900m(0.65mmØ), 2900m(0.8mmØ)

### Specifications (YAW-RB)

Power source	YAW-RB: 24V DC, 150mA (paging).40mA (standby).
Consumption	YAW-RB = 5 YAZ's, powered by YAZ network.
Paging impedance/level	Input: 600Ω/78mV(RMS), 1KHz. Output: 600Ω/300mV(RMS), 1KHz.
Music impedance/level	Input: 20KΩ/300mV(RMS), 1KHz. Output: 600Ω/150mV(RMS), 1KHz.
Line resistance	20Ω loop for power supply line. 200Ω loop for intercom line.
Amp. power ctrl. contact	YAW-RB: 240V AC 10A. 24V DC, 10A.

# Handset Intercom

STATION

## 25 TD-H/B

### Door station



**IF-DA**  
Door station  
→ P.71



**DE-UR**  
Door station adaptor

**Power supply**  
**PS-1225S PS-1225UL** → P.103

### Sub station



**TD-1H/B**  
1-call sub

### Master station



**TD-3H/B**  
3-call master

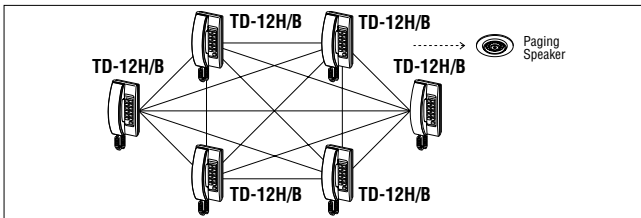


**TD-6H/B**  
6-call master

### Features

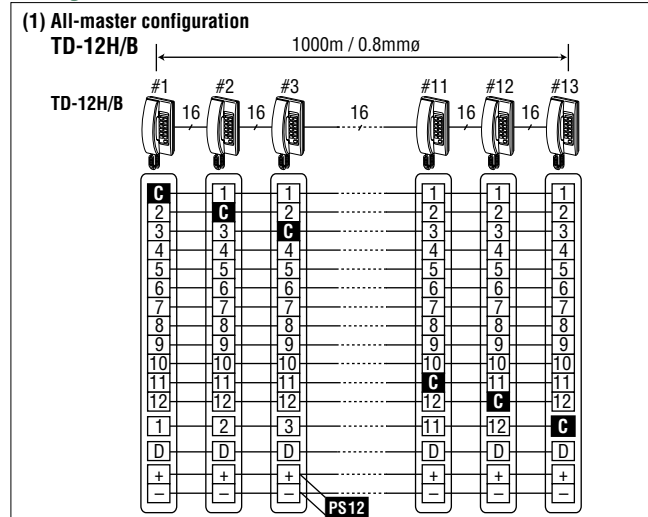
- All-master selective ring system
- Single-master configuration or intermix w/TD-1H/B
- Multi-conductor cable in loop
- Multi-talk channels
- Door station(s), audio or PanTilt video (max. 2)
- Zone paging, with or without talkback
- Music source connection. Page pretone cuts out music.

### Communication network



All-master configuration. Station selector & CALL to ring any other station.

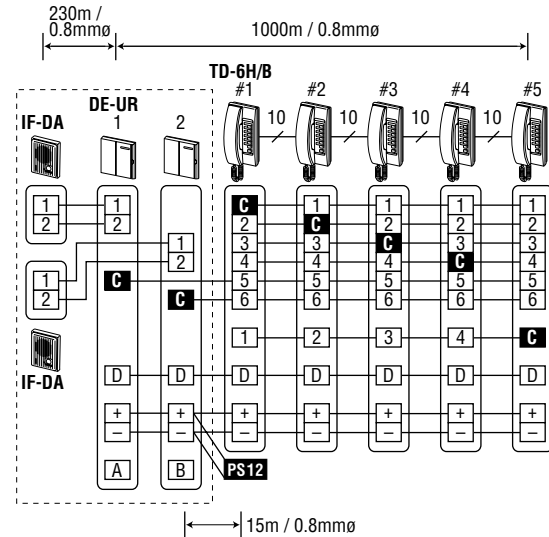
### Wiring



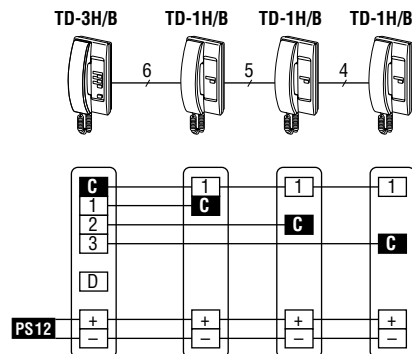
• Install main cable of max. conductors allowed for each TD-H/B station model.  
PS : PS-1225S, PS-1225UL Terminal D : Door station

### Wiring

#### (2) Door station communication



#### (3) Single-master configuration



Terminal 5 for door 1, 6 for door 2. DE-UR's should be powered by power supply.



**TD-12H/B**  
12-call master

**TD-24H/B**  
24-call master



For desk-top or surface wall mounting, provide TDW-n/A terminal box w/1.5m cord.

**TDW-1/A**  
TD-1H/B terminal box  
**TDW-3/A**  
TD-3H/B terminal box  
**TDW-6/A**  
TD-6H/B terminal box  
**TDW-12/A**  
TD-12H/B terminal box  
**TDW-24/A**  
TD-24H/B terminal box

**Power supply**  
**PS-1225S PS-1225UL**  
→ P.103

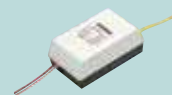
## Lineup



**PD-1**  
Zone page  
adaptor



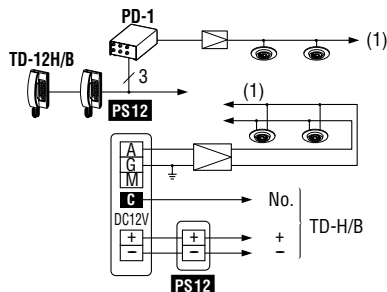
**PD-2**  
Zone page/talkback  
adaptor



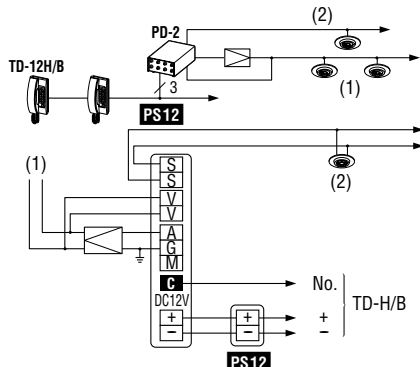
**RY-AC/A**  
External signaling  
relay  
→ P.101

## Wiring

### (4) Straight paging w/PD-1 (single-zone)

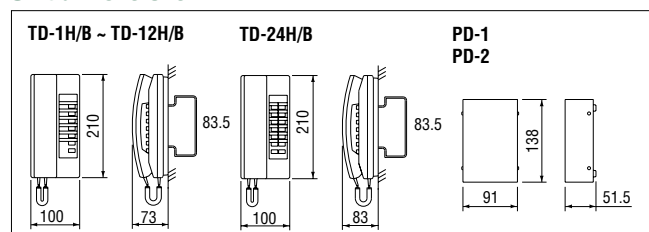


### (5) Paging with talkback w/PD-2 (single zone)



(1) Paging Speakers (2) Talkback speakers **PS12** : PS-1225S, PS-1225UL

## Unit dimensions



## Specifications (TD-H/B)

Power source	12V DC, 70mA per station.
Power supply	PS-1225S, PS-1225UL
Communication	Depress a station selector 1~12 and CALL (or CALL A) to ring station 1~12 (or A1 ~ A12). Lift handset to reply. Door calls in w/standard or faster(B) intermittent tone, 2-1/2 sec. Pick up and depress the selector assigned.
Wiring	2 or 3 + no. TD-H/B in loop. TD-1H/B: 4 wires. TD-3H/B: 7 wires. TD-6H/B: 10 wires. TD-12H/B: 16 wires. TD-24H/B: 28 wires.
Wiring distance	TD-H/B stations 650m(0.65mmø) 1000m(0.8mmø) DE-UR to door 150m(0.65mmø) 230m(0.8mmø)

### (PD-1,PD-2)

Power source	PD-1: 12V DC, 300mA. PD-2: 12V DC, 48mA (talkback).
Output	5KΩ. Max. 1.5V
Paging & music tone controls	Treble 12dB at 10KHz. Bass 12dB at 100Hz.
Amp. input	AUX or PHONO 100K-500KΩ, 0.12~0.5V
Music input	17KΩ, 0.3V, 1KHz. for full output
Tuner output	Audio output: Range 100mV~1.2V, 10KΩ or less
Tape output	Low level output: Range 100mV~1.2V, 600Ω
Talkback gain	40dB, 1KHz. at max. volume
Environmental noise	Less than 80dB (phon)
Paging	Select an assigned selector # and page w/PAGE button depressed. Release to receive reply
Wiring	3 wires to TD-H/B via power supply

# Security Window Intercom

SERVICE SIDE

1

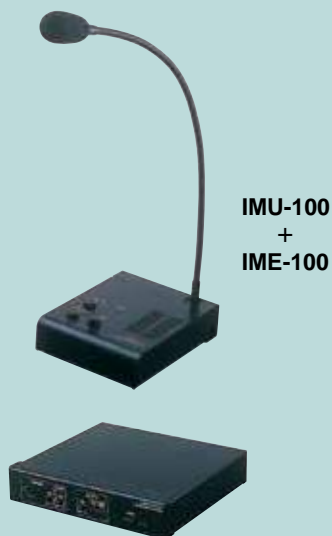


PUBLIC SIDE

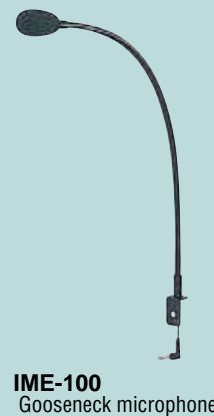
1

# IMU-100

Service Side



IMU-100  
Main kit



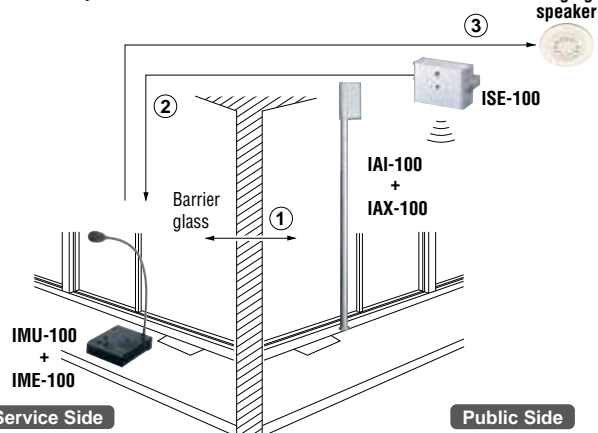
Power supply PS-2420S PS-2420UL → P.104

## Features

- First in industry! Using an acoustic tube with noise cancelling microphone
- Voice-actuated hands-free communication
- Flexible gooseneck type microphone
- Optional Mono type headset (ø3.5 plug)
- Detection sensor switches automatically to communication mode
- Separate speaker system using an optional microphone
- Paging feature for announcements
- Thin shape of the acoustic tube does not obstruct the field of vision
- Holes in the barrier glass are not necessary to install

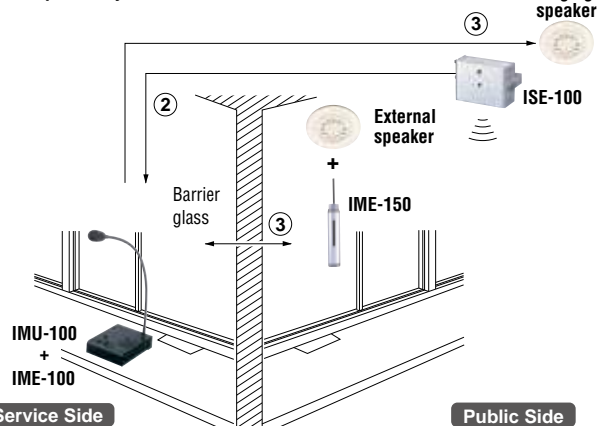
## Communication network

### Acoustic tube system



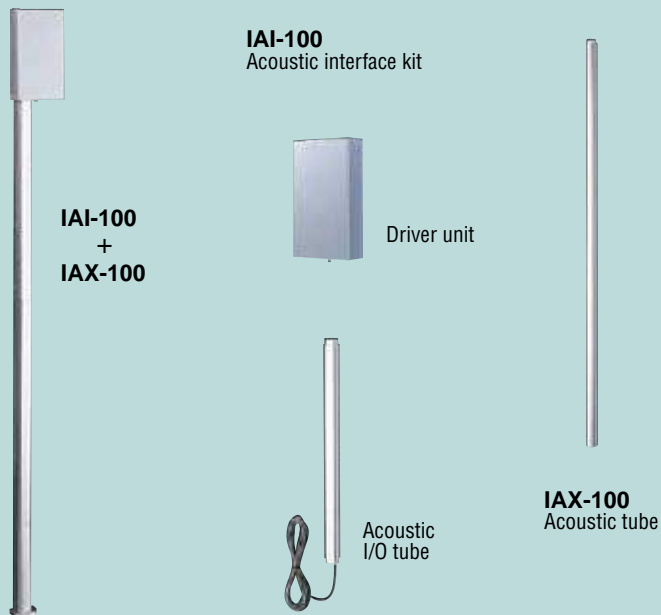
- ① Voice-actuated hands-free communication
- ② Automatically switch to communication mode
- ③ Paging

### Separate speaker system



## Public Side

### Acoustic tube system



### Separate speaker system



## Lineup

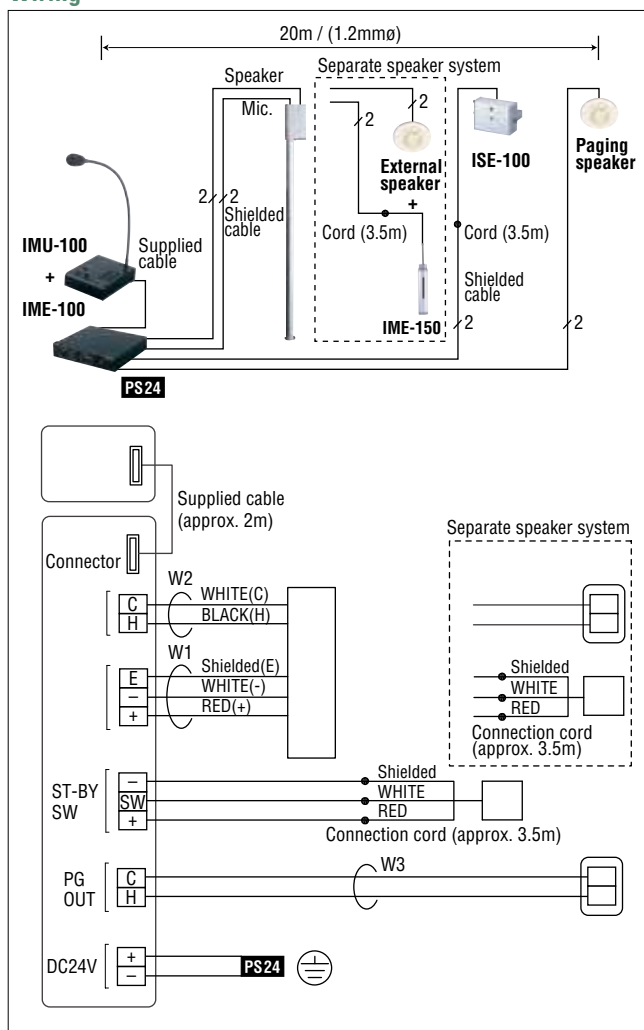


ISE-100  
Sensor



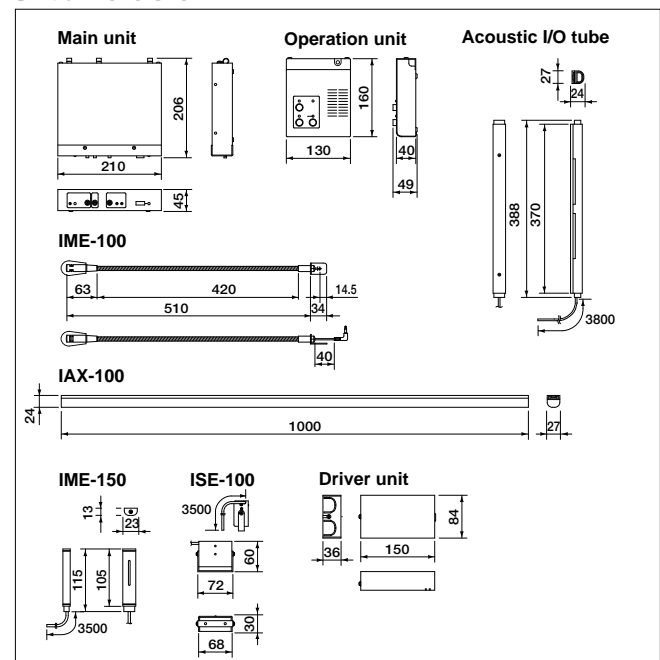
Paging speaker  
(locally available)

## Wiring



PS24 : PS-2420S, PS-2420UL

## Unit dimensions



## Specifications (IMU-100)

Power source	24V DC
Power supply	PS-2420S, PS-2420UL
Consumption	120 mA (standby) 780 mA (maximum)
Operating temperature	0°C to 40°C
Communication	Voice-actuated communication
	Transmit output: 3 W 4 $\Omega$ , Receive output: 1.5 W 16 $\Omega$
Headset	$\phi$ 3.5 plug, Impedance: 32 $\Omega$ , Rated input: 40 mW or more, Maximum input: 100 mW or more
External speaker	Impedance: 4 to 8 $\Omega$ , Rated input: 3 W or more Maximum input: 6 W or more
Paging speaker	Impedance: 4 to 8 $\Omega$ , Rated input: 3 W or more Maximum input: 6 W or more



# Master / Sub Intercom

MASTER

SUB

2



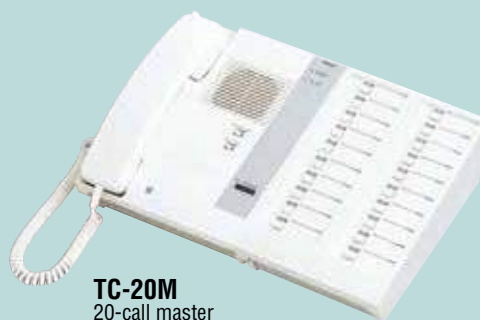
100

TC-M

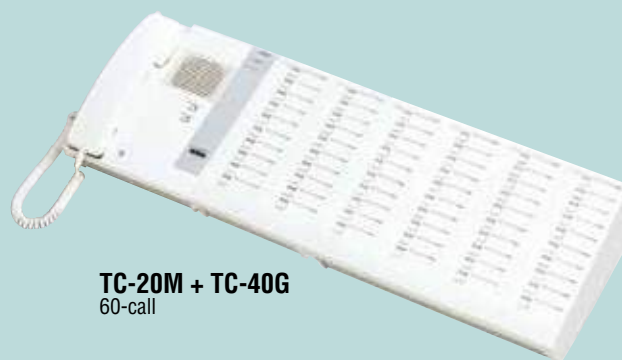
## Master station



**TC-10M**  
10-call master



**TC-20M**  
20-call master

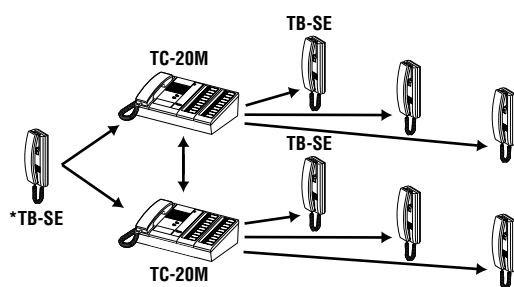


**TC-20M + TC-40G**  
60-call

## Features

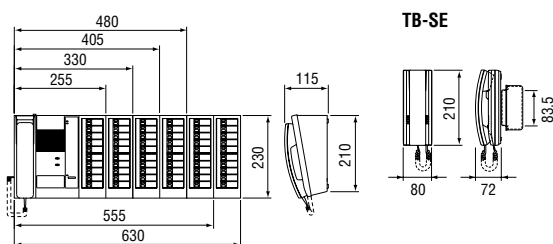
- Expandable internal telephone intercom
- One or dual master configuration
- Tone & LED call-in, staying on until answered
- Additional buzzer at TB-SE (w/relay)
- TRANSFER button on TC-M for communication between two TB-SE subs

## Communication network

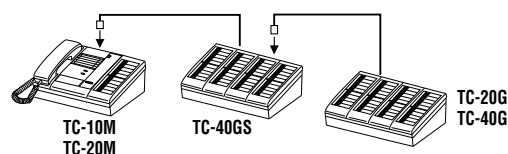


\*TB-SE : Sub station for two-master call.

## Unit dimensions



## Wiring



The TC-40GS is equipped with socket to connect the second add-on selector TC-20G or TC-40G.

## Specifications (TC-M)

Power source	18V DC, 350mA. 15~16V AC, 50/60Hz, 750mA.
Consumption	6W. 3W standby.
Power supply	PS-1820S, PS-1820UL, AC transformer.
Communication	Pick up TB-SE handset. Rings TC-M, w/tremolo & LED, staying. At TC-M, pick up and press a lit selector to reply.
Wiring	2 parallel wires per TB-SE, non-polarized.
Wiring distance	TC-M's 200m(0.65mmø) 480m(1.0mmø) TC-M~TB-SE 400m(0.65mmø) 900m(1.0mmø)

## Add-on selector



**TC-20G**  
20-call add-on selector



**TC-40G**  
40-call add-on selector  
**TC-40GS**  
W/add'l 20-/40-call expansion

## Sub station



**TB-SE**  
Sub station

**Power supply**  
**PS-1820S**  
**PS-1820UL**  
→ P.103

## Lineup

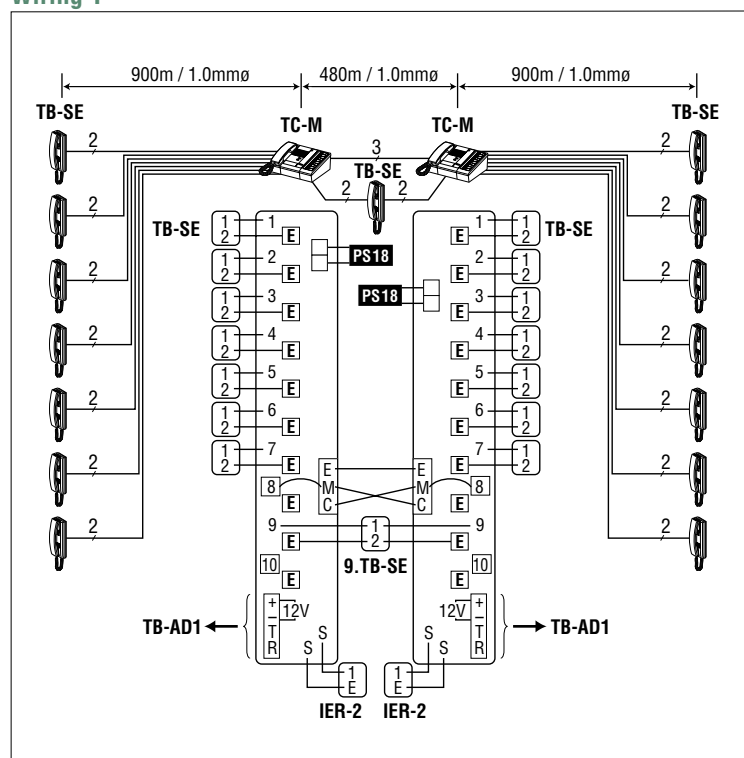


**IER-2**  
Call extension  
→ P.101



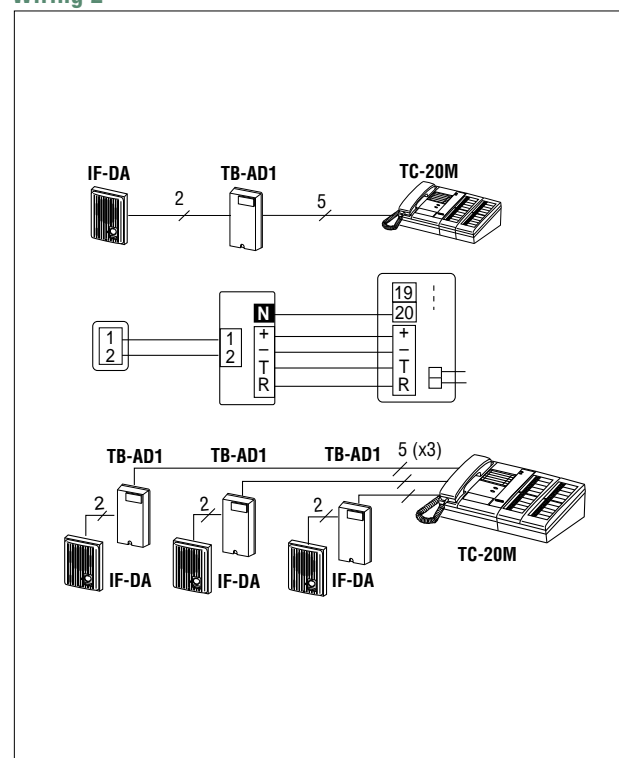
**TAR-3**  
External signaling  
relay  
→ P.102

## Wiring 1



- Run 2 parallel wires per TB-SE. Use any E terminal for max. three TB-SE's.
- Do not parallel TB-SE sub wires, or door station wires (in dual-TC-M system).

## Wiring 2



# Master / Sub Intercom

## DOOR 10 ROOM 1 TC-M & TB-AD10

### Door station



**IF-DA**  
Door station  
→ P.71

### Master station



**TC-10M**  
10-call master

**TC-10MD\***  
10-call master  
for door release  
\*Not available in Europe

**TB-AD10**  
10-call door adaptor

### Door adaptor



**TB-AD1**  
1-call door adaptor



**TB-ADD\***  
10-way door release adaptor  
\*Not available in Europe

### Lineup



**IER-2**  
Call extension  
→ P.101



**TAR-3**  
External signaling  
relay  
→ P.102



**EL-12S**  
Electric door strike  
→ P.101

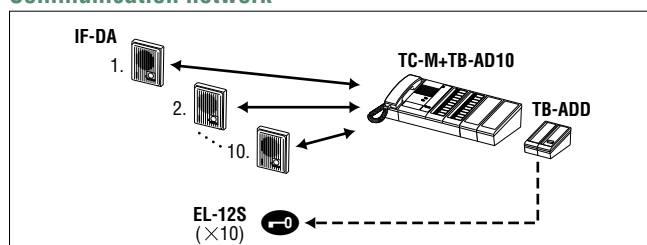
### Power supply

**PS-1820S PS-1820UL**  
→ P.103

### Features

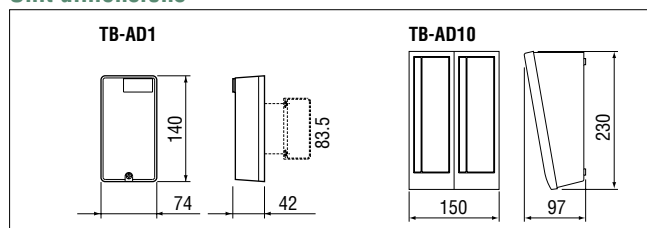
- Single or multiple audio door communication, expandable
- Optional selective door release control

### Communication network

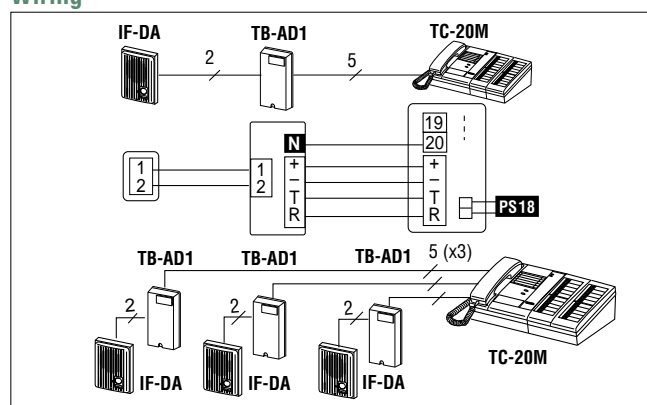


Pre-tone sounding or mute selectable at TB-AD10.

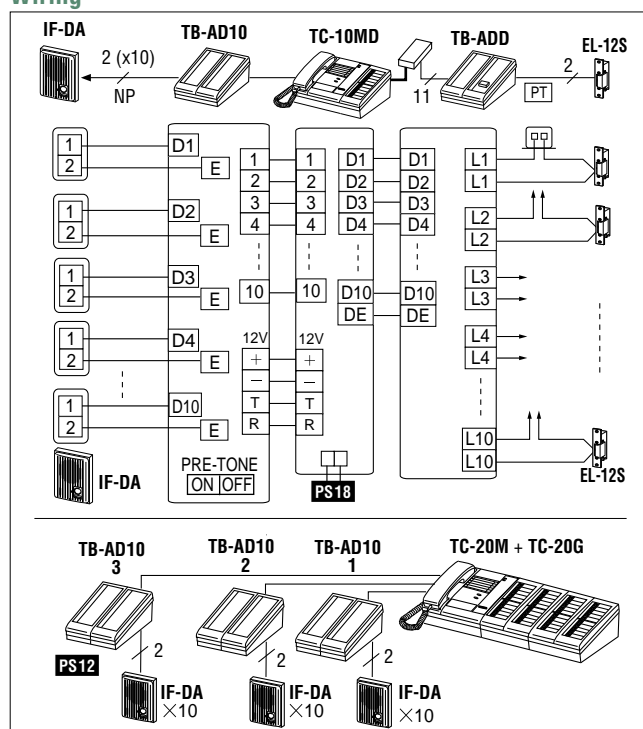
### Unit dimensions



### Wiring



### Wiring



Multiple TB-AD10 installation: Add a power supply for TB-AD10 #3 or after.

**PS18** : PS-1820S, PS-1820UL

### Specifications (TB-AD10)

Power source	TB-AD10: 12V DC, supplied by TC-M.
Door capacity	10(TB-AD10). 1(TB-AD1).
Communication	Door calls in w/tremolo & LED 40 sec. Pick up and depress LED lit selector. Pretone sounds at door, or silenced.
Wiring	2 parallel wires to door, non-polarized. 4 common + no. doors, TC-M to adaptor.
Wiring distance	TC-M to TB-AD10 65m(0.65mmø) 150m(1.0mmø) TB-AD10 to IF-DA 150m(0.65mmø) 360m(1.0mmø)

# 60 MC-60/4A

## Market-com station



**MC-60/4A**  
Market-Com station

**Scheduled for sales termination**



**MC-60/4B**  
Market-Com desk station  
\*Not available in Europe

## Market-com adaptor



**MC-A/A**  
Zone page adaptor

## Lineup

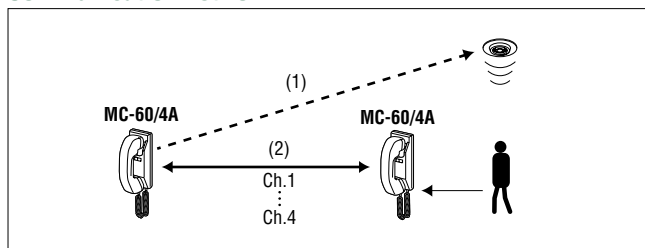
**Paging speaker**  
w/built-in transformer  
(locally available)

**Power supply**  
**PS-2420S PS-2420UL**  
→ P.104

## Features

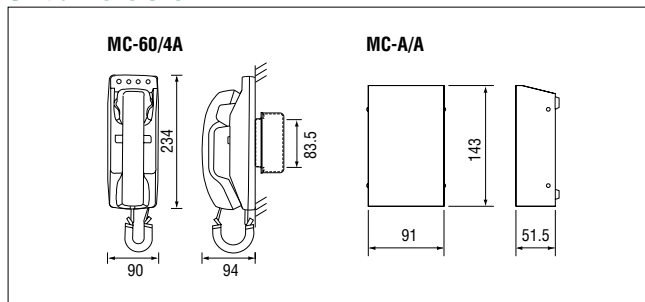
- Max. 60-station paging & communication system
- Selective 4 talk channels with in-use LED's
- Conference call among 3 stations
- Music cutout during paging
- Reinforced modular coil cord

## Communication network



(1) Paging (2) Select a channel 1~4 paged, and communicate.

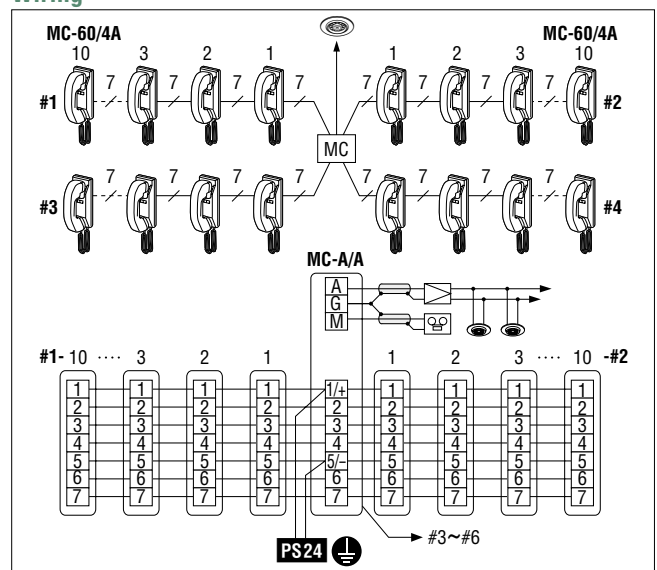
## Unit dimensions



## Specifications (MC-A/A)

Power source	24V DC, PS-2420S, PS-2420UL
Amp. input	AUX 10K $\Omega$ , 0.3V~0.5V
Music source output	Range 100mV~1.2V, 10K $\Omega$ or less

## Wiring



Station blocks #1~6 of max. ten MC-60/4A's

**PS24** : PS-2420S, PS-2420UL

## Specifications (MC-60/4A)

Power source	24V DC, 70mA max. (in page).
Power supply	PS-2420S, PS-2420UL at MC-A/A.
Communication	Pick up and depress channel selector 1~4 and page w/PAGE button. Called party picks up and presses lit LED channel button.
Talk channel	4 and a separate paging channel.
Wiring	7 wires in loop, non-twisted.
Cable specified	Line capacitance less than 25pF/30cm.
Wiring distance	MC-A/A to MC-60/4A(*) 500m(0.65mm $\phi$ ) 750m(0.8mm $\phi$ ) Total wiring distance 1500m(0.65mm $\phi$ , 0.8mm $\phi$ )

(\*) MC-A/A to farthest MC-60/4A, or between two farthest MC-60/4A's of different blocks.

# Mid-Power Intercom

MASTER

1

SUB

3

# MP-S

Scheduled for sales termination

## Master station



**MP-1S**  
1-call master



**MP-3S**  
3-call master

## Sub station



**AS-3N**  
Sub station



**AS-3A**  
Sub station

## Call button



**NP-B**  
Flush call plate

## Power supply

**PS-1225S**  
**PS-1225UL**

→ P.103

## Lineup



**NBZ-M\***  
Flush square frame



**N-EA\***  
Surface round frame

**NP-W\***  
Surface mount box for NP-B

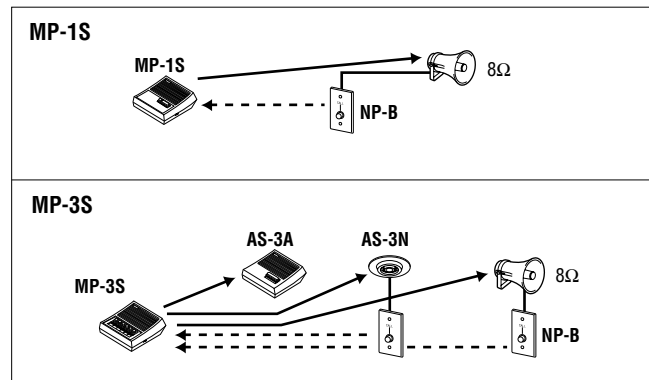
8Ω horn speaker locally available

\*Not available in Europe

## Features

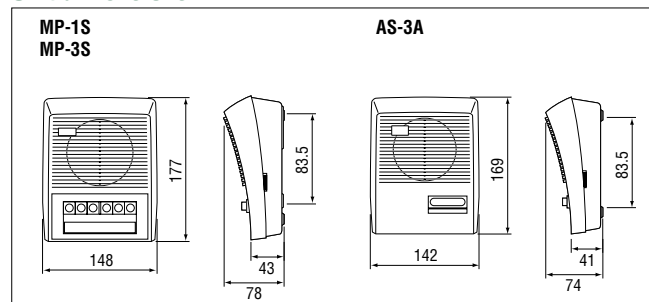
- 1 or 3-call mid-power intercom, 2.5W powered
- Incorporates subs either in console, ceiling mount or 8Ω horn for maximum output
- Hands-free reply from sub

## Communication network

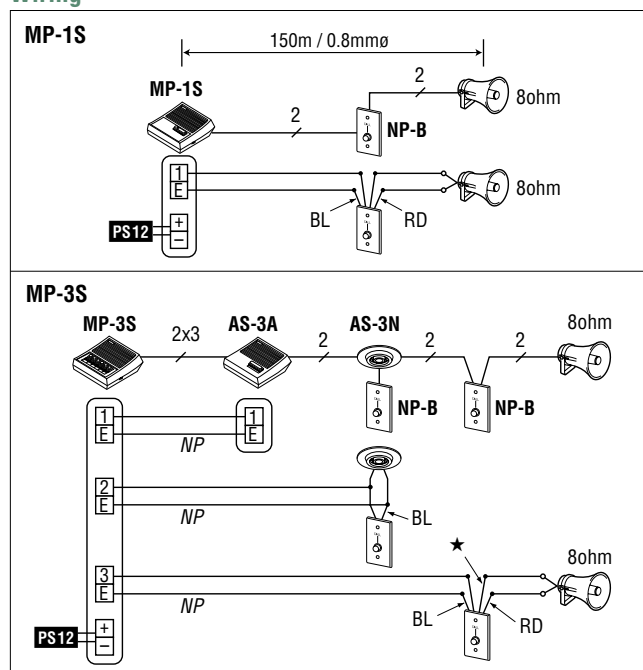


8Ω Horn w/talkback reply

## Unit dimensions



## Wiring



• For 8Ω horn without NP-B, install a 33MFD, 25V NP capacitor on No. line.  
BL : Blue(2) RD : Red(2) ★NP-25V Capacitor **PS12** : PS-1225S/UL

## Specifications (MP-S)

Power source	12V DC, 1A.
Power supply	PS-1225S, PS-1225UL
Communication	Sub calls in w/tone (& LED 20 sec. on MP-3S). Press sub selector and TALK to transmit, and release to listen.
Output	2.5W at 1KHz.
Output impedance	8Ω
Wiring	2 parallel wires per sub, non-polarized. *Do not make E wires common.
Wiring distance	MP-S to sub 100m(0.65mmø) 150m(0.8mmø)



# High-Power Intercom

MASTER

SUB

2

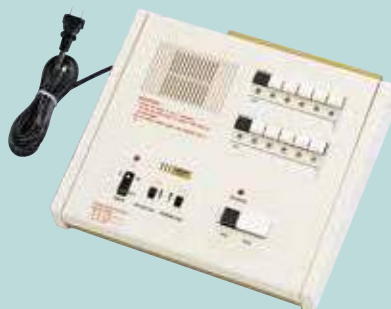


10

AP-M

Scheduled for sales termination

## Master station



**AP-5M**  
5-call master  
**AP-10M**  
10-call master  
(Photo)



**AP-1M**  
1-call master

## Sub station



**AS-3N**  
Sub station



**AS-3A**  
Sub station

## Call button



**NP-B**  
Flush call plate

## Lineup

**NP-W\***  
Surface mount  
box  
for NP-B



**NBZ-M\***  
Flush square  
frame  
for AS-3N



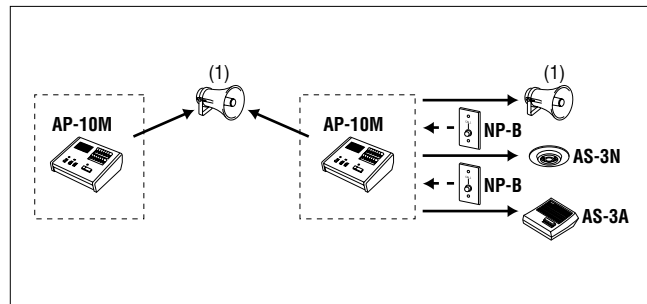
**N-EA\***  
Surface round  
frame  
for AS-3N

\*Not available in Europe

## Features

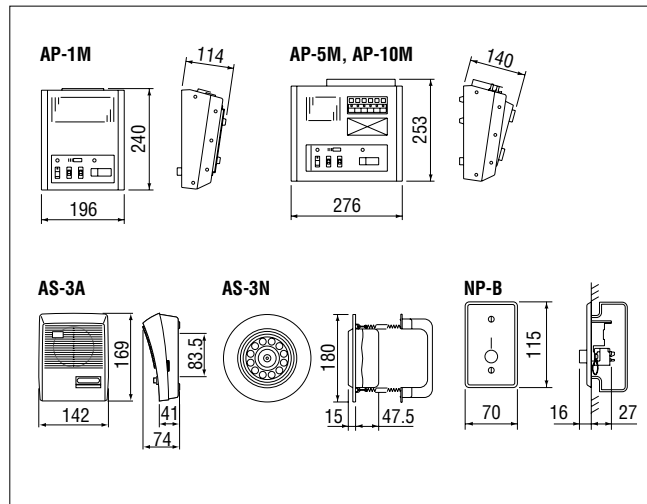
- 10 watt-powered paging & communication system
- Selective all call to 5 subs
- Single or dual-master configuration
- 8Ω or 16Ω horn speaker with talkback

## Communication network

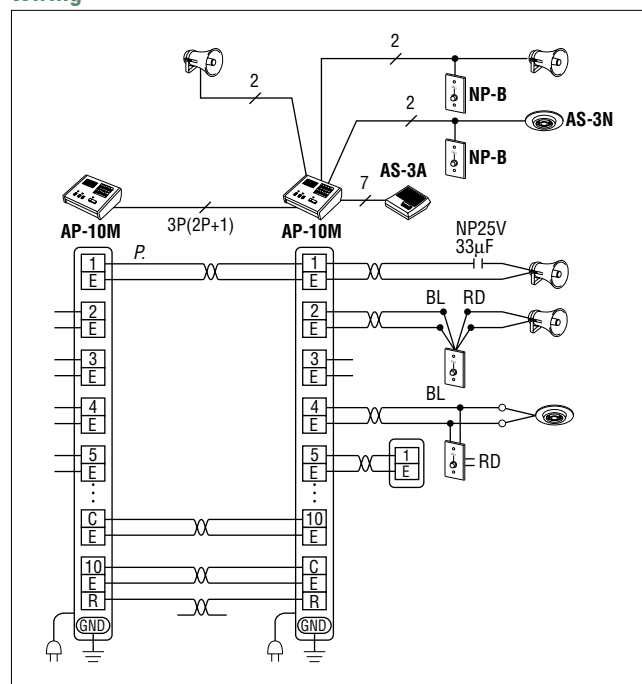


(1) 8Ω horn

## Unit dimensions



## Wiring



BL : Blue(2). RD : Red(2).

## Specifications (AP-M)

Power source	110~125V, 127V, 230V, 220~240V AC, 50/60Hz.
Consumption	45W. 6W standby.
Communication	Sub calls in with tone & LED, 15 sec. Depress selector and use Talk/Listen switch. All call selectively to max. 5 subs. Max. 10W transmit, adjustable. 300mW receive, adjustable.
Wiring	1 twisted pair per sub, non-polarized 3 pairs (5), masters.
Wiring distance	AP-M to sub 150m(0.65mmø) 230m(0.8mmø)

# Nurse Call

MASTER

SUB

1

80

NHX

\*Not available in Europe, Australia, nor New Zealand

## Master station



**NHX-50M**  
50-call master station

## Add-on selector

### NHX-30G

30-call add-on selector  
Plugs into NHX-50M

### NHR-30K

30-call add-on trunk card

## Central control unit



**NHX-80X**  
Central control unit

## Duty station



**NHR-SP**  
Duty station

## Power supply

PS-2420S PS-2420UL → P.104

## Zone light



**NHR-3A-4**  
4-zone call light

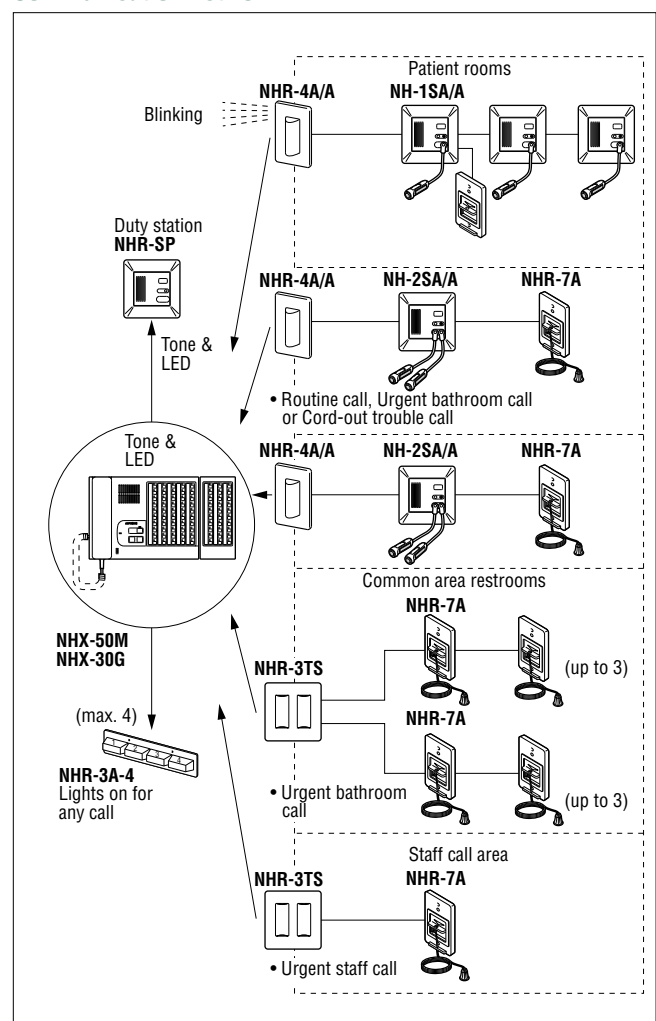
## Features

- One master, up to 80 sub stations. Single and dual patient stations
- Multi-station capability per patient room
- Three types of call-ins from patient stations: Routine call, Bathroom call & Cord-out trouble call, identified by tone & blinking LED (w/priority according to urgency and time of call)
- NHR-3TS Common Area Call station is used for common area bathroom call or staff call (urgent)
- Optional zone light (max. 4)

## Communication

1. At NHX-50M master, when called by a bedside sub, either lift handset or press TALK once to establish talk channel. To initiate a call, press the selector button of the sub. At the sub, pretone sounds and TALK is lit green. Corridor and zone lights do not turn on.  
To silence the tone, press TONE-OFF button. Tone will resume after 90 seconds or when new call is placed.
2. Corridor lamp & Zone 1~4 light turn on with any type of call placed by sub station area. When talk channel is established, two lights will turn off.
3. A call from NHR-3TS is of the same level as Urgent bathroom call. (no verbal communication)

## Communication network



## Sub station



**NH-1SA/A**  
Single-jack bedside sub station



**NH-2SA/A**  
Dual-jack bedside sub station



**NHR-3TS**  
Calling zone light

## Corridor lamp



**NHR-4A/A**  
Corridor lamp w/red & white lamps



**NHR-8C**  
Bedside call switch



**NHR-DPA**  
Dummy plug



**NHR-7A**  
Staff call switch

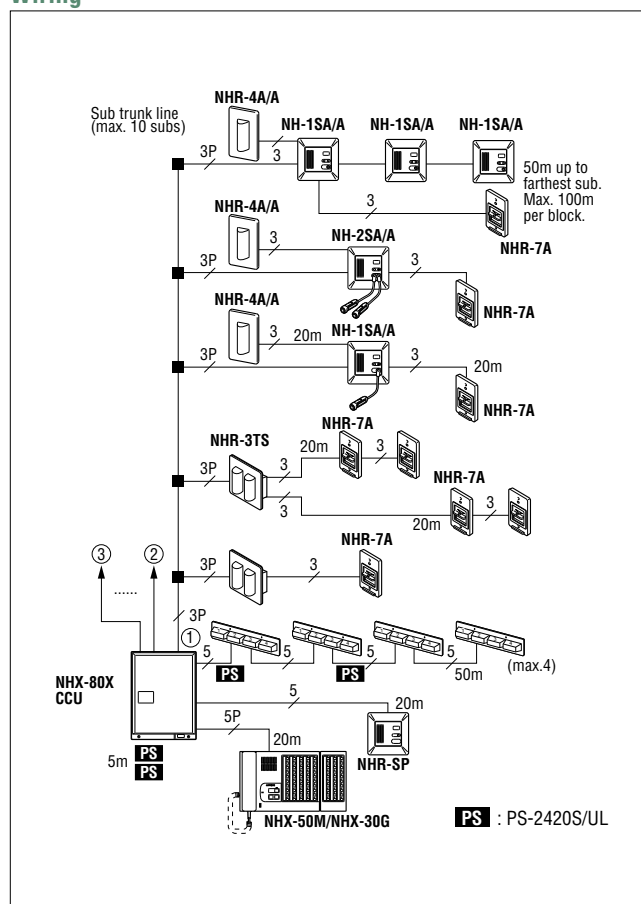


**NHR-7A**  
Bathroom pullcord

## Call tone & light annunciation

TYPE OF CALL	tone	LIGHT
<b>Routine call</b> At NHX-50M (& at Duty station) At Bedside sub At Corridor lamp	Single chime, every 6 sec. — —	Blinking, every 2 sec. 'CALL' steadily lit White lamp steadily lit
<b>Urgent bathroom call or NHR-3TS</b> At NHX-50M (& at Duty station) At Bedside sub At Corridor lamp	Single chime, every 2 sec. — —	Double blinking, every 1.8 sec. 'CALL' steadily lit Red lamp Blinking
<b>Cord-out trouble call</b> At NHX-50M (& at Duty station) At Bedside sub At Corridor lamp	Single chime, every 0.5 sec. — —	Blinking fast, every 0.4 sec. 'CALL' steadily lit White lamp Blinking
<b>NHR-3TS in common area</b> Bathroom call (urgent) Staff call (urgent)	— —	Red blinking (2 lamps) White blinking (one lamp)
<b>Line-off trouble at NHX-50M</b> Line-off at bedside sub Line-off at Duty station	Slow buzzer, intermittent Faster buzzer, intermittent	Lit 0.2 sec., every 2 sec. No light

## Wiring



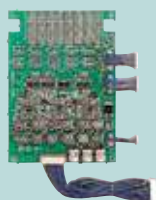
Sub trunk line: 6 wires (3P). 4P with NHR-3A-4 light included.  
Each zone requires a separate common wire from NHX-80X.

Use twisted pairs with an overall shield, low capacitance, 0.65mm dia., solid conductors. (Rated capacitance level of wire: 25pF/30cm or less)

## Central control unit



**NHX-80X**  
Central control unit

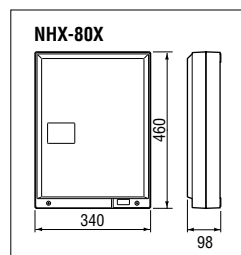


**NHR-30K**  
30-call add-on trunk card

## Features

Controls the NHX-50M and up to 80 sub stations. 1 ~ 8 trunk lines of up to 10 stations per trunk connected inside CCU. (3 pairs, or 4 pairs if zone light is installed). 5 pairs to Master station. Terminates in CCU Zone light (4 in loop), Duty station, and power supplies(2). After installation, the NHX-80X must be initialized. During use, turn power switch off and back on to reset. Install NHR-30K Expansion Trunk Card when NHX-30G is used.

## Unit dimensions



## Specifications (NHX-80X)

Power Source	24V DC, 4A max.
Power supply	2 pcs PS-2420S, PS-2420UL
Station capacity	50 sub stations (max. 80 with NHX-30G & NHR-30K).
Calling	Routine call, Urgent bathroom call & Cord-out trouble call. Up to 5 calls can be displayed on NHX-50M.
Communication	Single and private talk channel. Press-to-talk or handset voice-actuation
Call-in priority	(1) Cord-out trouble call, (2) Urgent bathroom call and NHR-3TS common area bathroom call or staff call, (3) Routine call. Subs' call-ins on standby connected according to urgency level and time of call.
Warning tones	(1) Line-off trouble at Bedside or NHR-3TS sub & Duty station. (To stop tone on the Duty station, plug in, 2-pin jumper to CN104 in CCU).(2) 90 sec. elapse timer: Call tone goes up to HIGH level.(3) 90 sec. off-hook timer: Steady tone will notify that handset is off-hook.
Wiring	3 (or 4*) twisted pairs, CCU to Sub trunks 1~8. (*when zone light is installed) 5 twisted pairs, CCU to NHX-50M. 6 wires (parallel), CCU to NHR-SP. 5 wires (parallel), CCU to NHR-3A-4. <b>Use twisted pairs with an overall shield, low capacitance, 0.65mm dia., solid conductors. (Rated capacitance level of wire: 25pF/30cm or less)</b>
Wiring distance	CCU to Sub (farthest) 50m(0.65mm) Sub trunk line 100m(0.65mm) CCU to NHX-50M 20m(0.65mm) CCU to Duty station 20m(0.65mm) CCU to Zone light 50m(1.0mm) CCU to PS-2420UL 5m(1.0mm)
Mounting	3-gang wall-mounting. Or inside Electrical Enclosure with secured door (Provide a suitable, non-combustible mounting surface).

## Master station



**NHX-50M**  
50-call master station

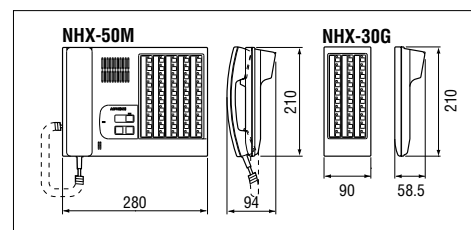


**NHX-30G**  
30-call add-on selector

## Features

Extremely compact 50-call desk console. Open voice communication with TALK button, or handset (voice-actuated). When called, simply press TALK or pick up handset to establish channel. Otherwise, press TONE-OFF button and go to calling location. To initiate a call, press a selector button first. NHX-30G is a 30-call add-on selector. Plugs into NHX-50M.

## Unit dimensions



## Specifications

Wiring	10-pin plug in connector (to NHX-80X). Provided with preset volume controls. Can verify connection of all sub stations.
Wiring distance	Install within 20m from CCU.

## Duty station

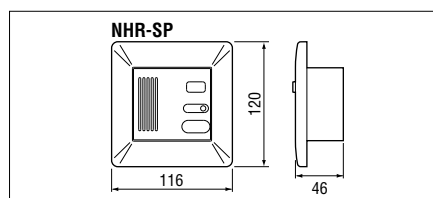


**NHR-SP**  
Duty station

## Features

Acknowledges any station call with tone and blinking LED. Go to the NHX-50M. Press TONE-OFF and identify the caller at Master station.

## Unit dimensions



## Specifications

Mounting	2-gang semi-flush mounting.
Wiring	CN1 (6 pin) to NHX-80X. When NHR-SP is installed, unplug Connector from CN104 on NHX-80X.

## Bedside sub station



**NH-1SA/A**  
Single-jack bedside  
sub station



**NH-2SA/A**  
Dual-jack bedside  
sub station



**NHR-3TS**  
Calling zone light



**NHR-8C**  
Bedside call switch



**NHR-DPA**  
Dummy plug

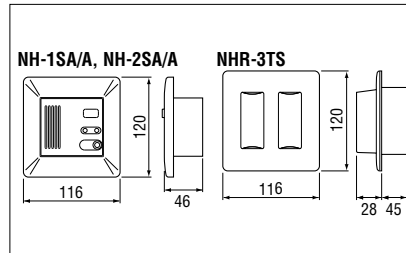
### Features

Bedside station for calling and communication. Used with NHR-8C call cord. When call button is pushed, 'CALL' LED is lit red. When master replies, green 'TALK' LED is lit. Press CANCEL to reset the call. When NHX-50M calls in, pre-tone sounds and 'TALK' LED is lit green.

#### Dummy plug (NHR-DPA)

Plugs into jack unused on bedside sub stations.

### Unit dimensions



### Specifications

Mounting	2-gang semi-flush mounting
Wiring	Sub Nos. 1 ~ 10 setting on SW1. CN1 (6 pin) to sub trunk line. CN2 (8 pin) for NHR-7A, NHR-4A/A & zone light.

## Bathroom pullcord

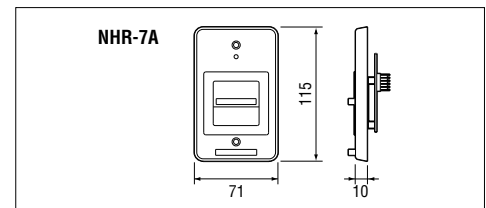


**NHR-7A**  
Staff call switch

### Features

Mechanically locked calling device, used to place an urgent bathroom call from a patient room, common area bathroom or staff call location. Cannot be used alone, and must be used with NH-1SA/A, NH-2SA/A, or with NHR-3TS common area call station. Provides dry closure contact. Master-CALL LED indicates call placed. Ratings 24V DC, 100mA (min. 5mA or more).

### Unit dimensions



### Specifications

Mounting	Single-gang semi-flush mounting.
Wiring	3 wires to patient station or NHR-3TS.

## Corridor lamp

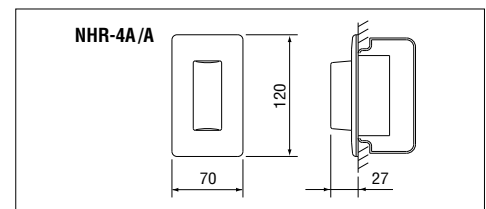


**NHR-4A/A**  
Corridor lamp w/red &  
white lamps

### Features

When a call is placed, the NHR-4A blinks red or is steadily lit white. Ratings: 24V DC (or more), 200mA max.

### Unit dimensions



### Specifications

Mounting	Single-gang semi-flush mounting.
Wiring	3 wires to Bedside sub station.

## Zone light

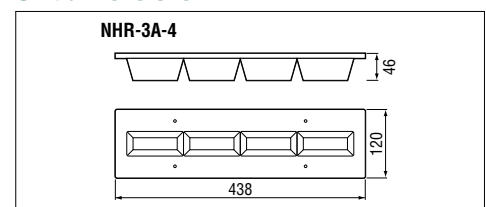


**NHR-3A-4**  
4-zone call light

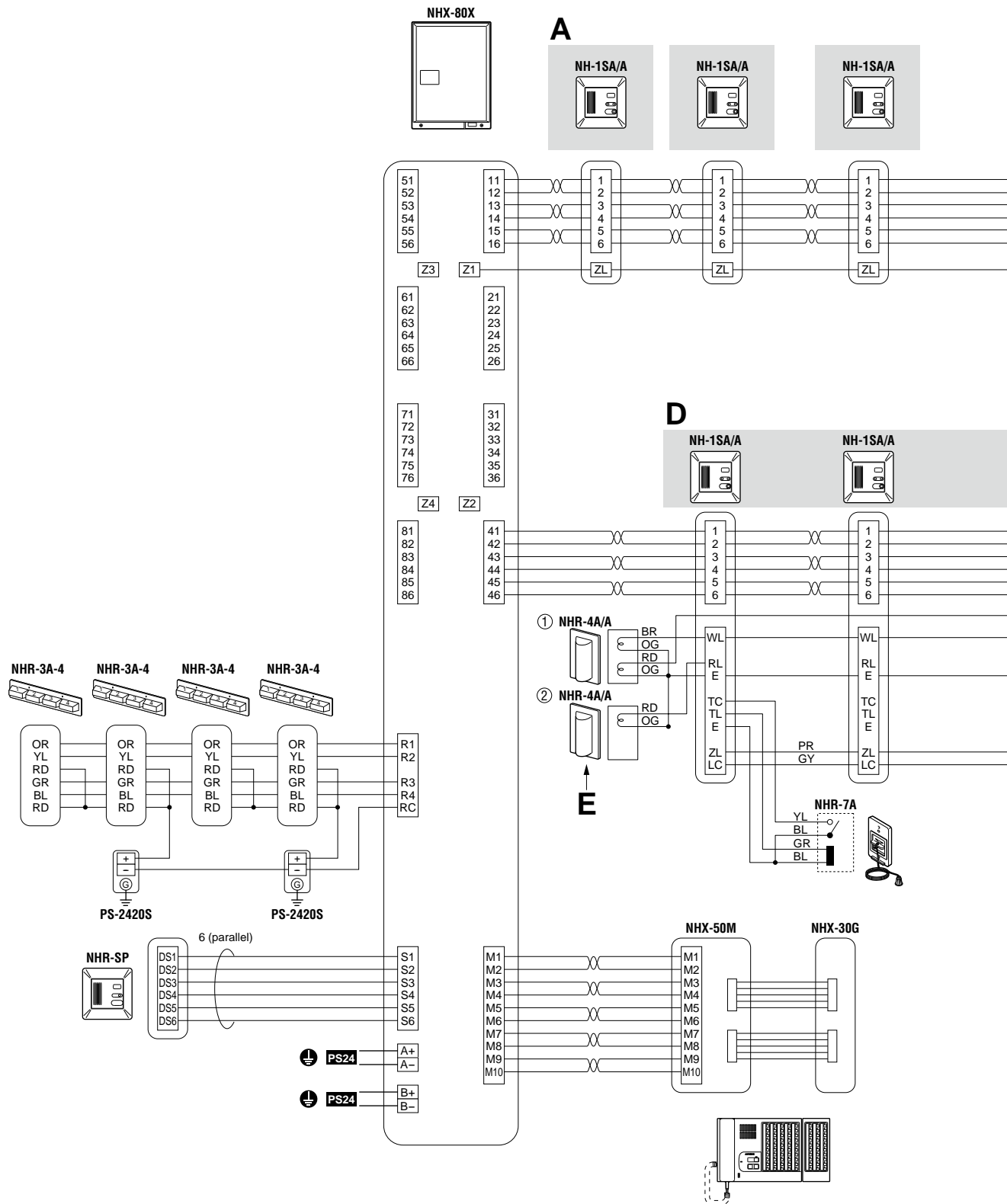
### Features

Zone lamp turns on when any call is placed on the system, indicating which zone has a call placed. Up to 4 zone lights can be installed in one system. Install one PS-2420S, UL for every 2 zone lights. Lamp ratings: 24V DC ~, 200mA.

### Unit dimensions







- A** Patient rooms w/a single bedside sub station
- B** Staff call (corridor)
- C** Bathroom call (common area)
- D** Patient rooms w/multiple bedside sub stations
- E** Corridor lamp NHR-4A/A

①: Two white lamps ②: One red lamp  
NHR-4A ② is required only when NHR-7A bathroom pullcord is installed in a single and common bathroom.

**PS24:** PS-2420S, PS-2420UL

## Wire color identifications

**NHR-3A-4**  
OR: Orange (Zone 1)  
YL: Yellow (Zone 2)  
RD: Red (+)  
GR: Green (Zone 3)  
BL: Blue (Zone 4)  
RD: Red (+)

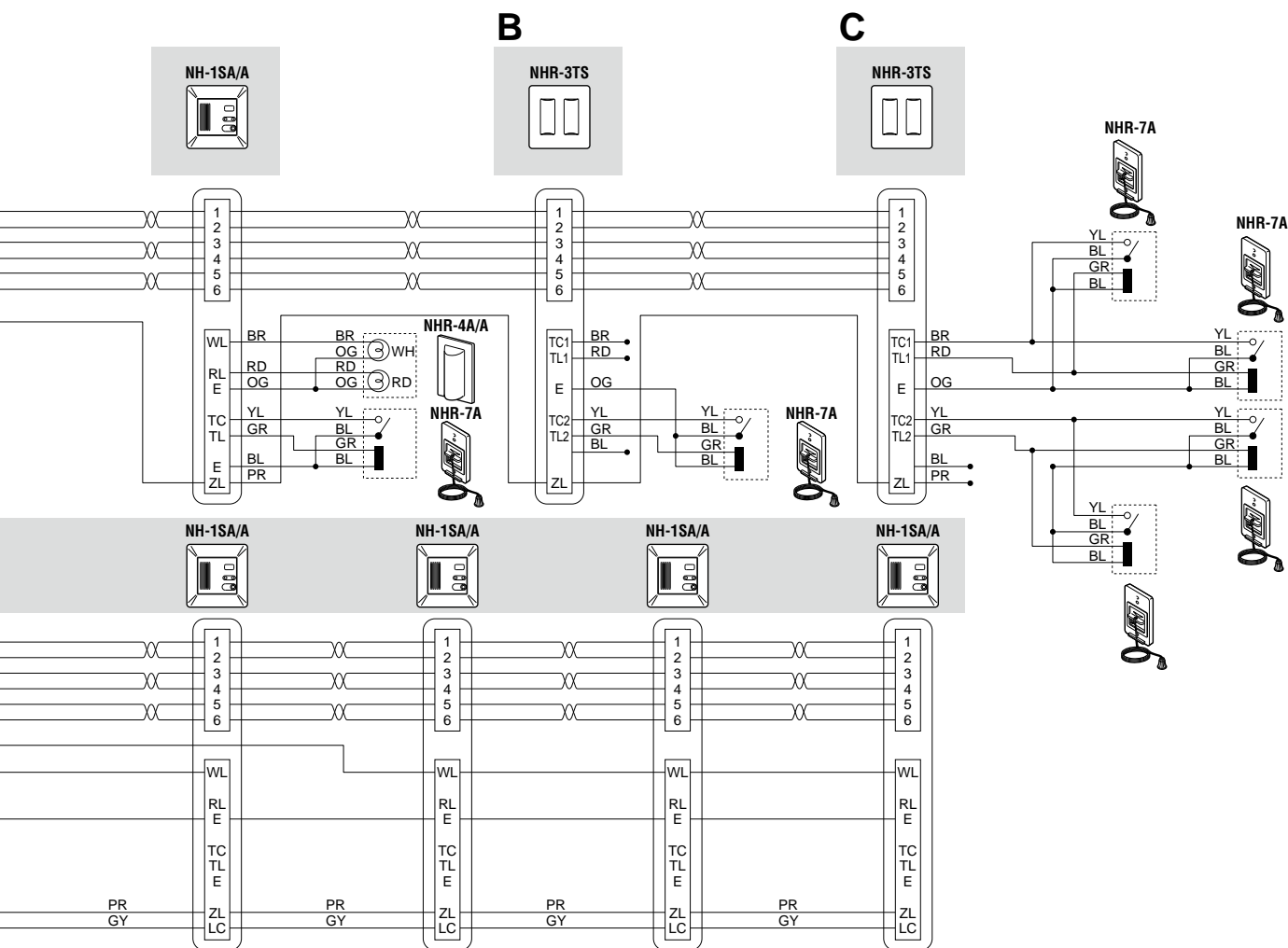
Zone light relay makes contact.

**NHR-4A/A**  
BR: Brown  
OG: Orange  
RD: Red  
OG: Orange

**NHR-7A**  
YL: Yellow  
BL: Blue  
GR: Green  
BL: Blue

**NH-1SA/A**  
BR: Brown  
RD: Red  
OG: Orange  
YL: Yellow  
GR: Green  
BL: Blue  
PR: Purple  
GY: Gray

**NHR-3TS**  
BR: Brown  
RD: Red  
OG: Orange  
YL: Yellow  
GR: Green  
BL: Blue  
PR: Purple



### Multi-station patient room applications

Multiple NH-1SA/A and NH-2SA/A bedside sub stations can be installed within a patient room, observing the following conditions;

1. Max. 6 bedside sub stations may be connected per room for max. 12 calls (when NH-2SA/A stations are used).
2. A corridor lamp inside (NHR-4A) must not be connected with more than 4 bedside sub stations.
3. Due to the above, install two NHR-4A/A corridor lamps when more than 4 sub stations are in one room, i.e. two WHITE lamps used in one NHR-4A/A, and one RED bulb used in the other NHR-4A/A.
4. NH-1SA/A and NH-2SA/A station numbers must be programmed in numerical order and connected to the same subs trunk line.
5. NHR-7A bathroom pullcord is optional.

## Access control

### Surface mount



#### AC-10S

Vandal resistant access control keypad, surface mount



#### JK-DV, AC-10S

→ P.10

### Flush mount



#### AC-10F

Vandal resistant access control keypad, flush mount

#### Power source

12-24V DC power supply  
12-24V AC transformer

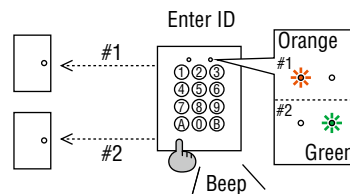
### Features

- Two types of keypads are available.  
AC-10S: Surface mount type AC-10F: Flush mount type
- AC-10S matches JK-DV, JO-DV and JP-DV, color video door stations.
- Vandal resistant panel, zinc die cast, and tamper proof screws are included.
- Two independent relay outputs (N/O or N/C) are available. When same access code is programmed for both #1 and #2, two relays activate simultaneously.
- Programmable up to 100 access codes\* 4, 5, or 6 digits in length.  
\* #1: up to 60, #2: up to 40
- Keypad lockout: After too many incorrect access codes are attempted.
- Anti-tailgate: As soon as the door is closed after access is granted on #1, the door is locked even before programmed output time. Prevent sneak in.
- One push door release with external timer connection: While the external timer is on operation, access code is not required. Press "0" key only. Programmable #1 and/or #2.
- External output for alarming: When "Lockout" or "Forced entry" occurs, external output is available at #2.
- Two LED indicators show the status of the access control system.
- Illuminated keypad is easy to read.
- Audible key press

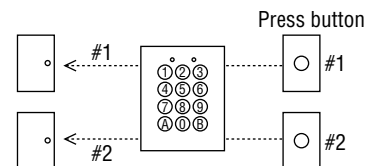
### Features

- Activate door release (relay)

By keypad

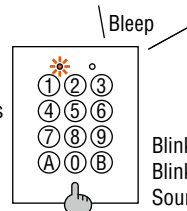


By request to exit/entry button



- Keypad lockout

The keypad is locked out after too many incorrect access codes are attempted.



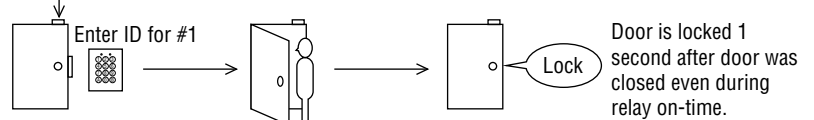
Programmable

- Incorrect access code: 10-99 times
- Lockout time: 10-99 seconds

Blink keypad 4 times  
Blink LED (orange) programmed period  
Sound buzzer approx. 3 seconds

- Anti-tailgate

Door sense switch

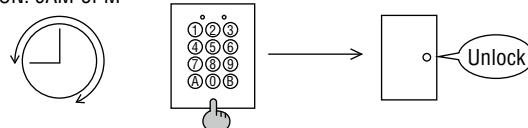


- One push door release with external timer connection

During the timer is on operation

ON: 9AM-5PM

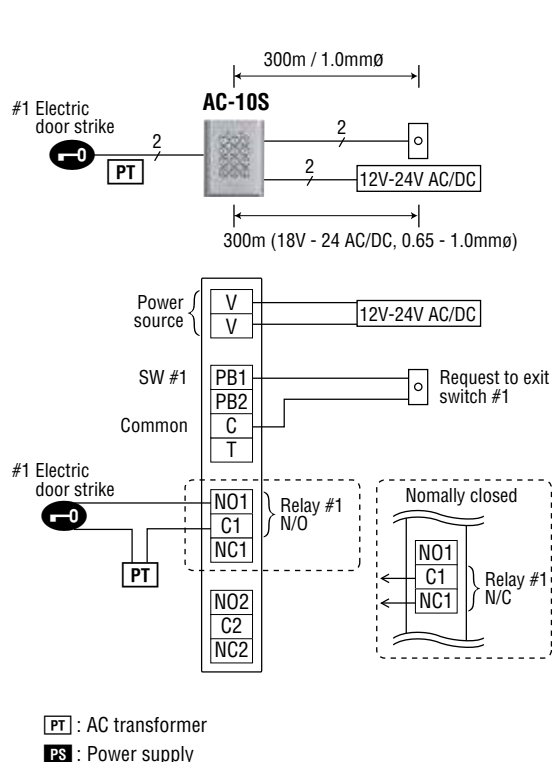
Press "0" key



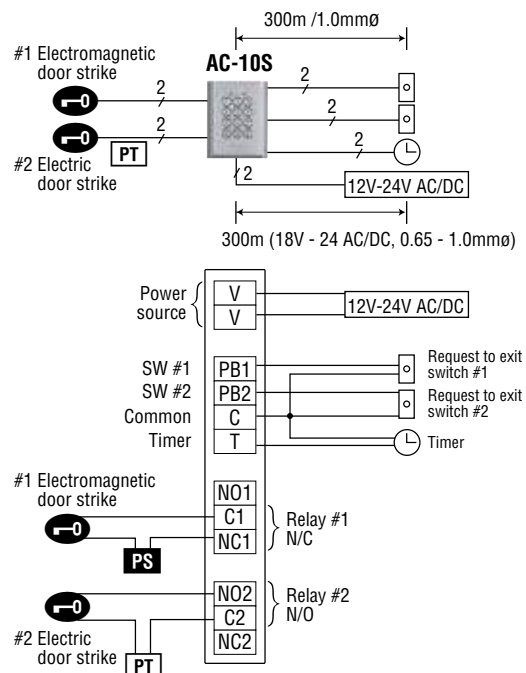
\* The design and specifications are subject to change without notice for improvement.

## Wiring

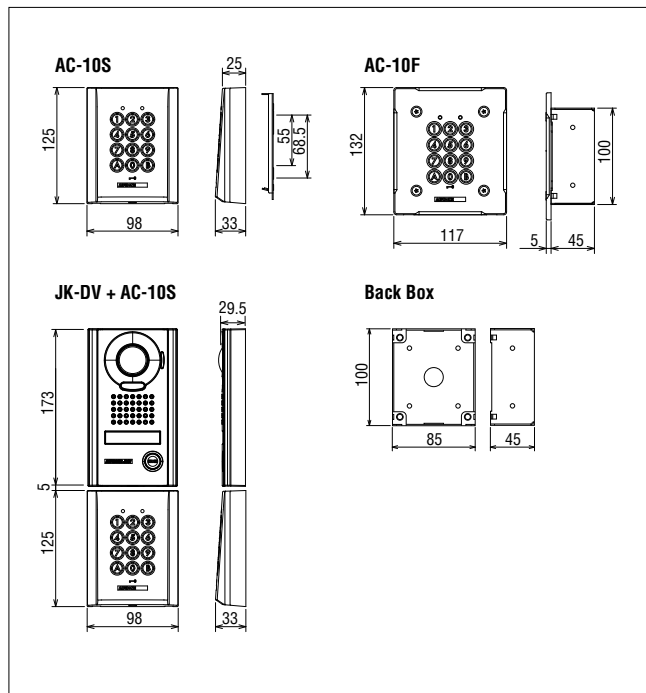
(1) Relay #1 (Normally open)



(2) Relay #1 (Normally closed) & Relay #2 (Normally open)



## Unit dimensions



## Specifications (AC-10S, AC-10F)

Power source	12 – 24V AC or 12 – 24V DC
Consumption	Max. 100mA
Relay	Output: 2 Contact rating: 24V AC/DC, 3A (resistive load), 1A (inductive load) Dry contact: Normally open or Normally closed Operating time: From 1 second to 99 seconds
Access code	Number: Up to 100 (#1: 60, #2: 40) Code length: From 4, 5, or 6, (0 ~9, A, B)
Wiring	Two conductors
Wiring distance	Access control ~ Power source: 100m (12V – less than 18V AC/DC, 0.65 – 1.0 mmø) 300m (18V – 24V AC/DC, 0.65 – 1.0 mmø) Access control ~ Request to exit button 300m (0.65 – 1.0 mmø)
Environment	Weather resistant (IP54 equivalent)

# Accessories

## Call extension



**IER-2**  
Call extension

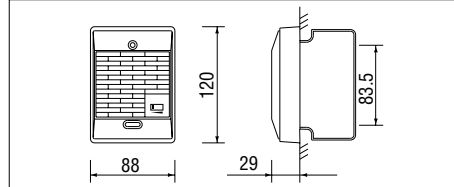
### Features

- Announces (chime) call tone only, adjustable
- Indoor mounting

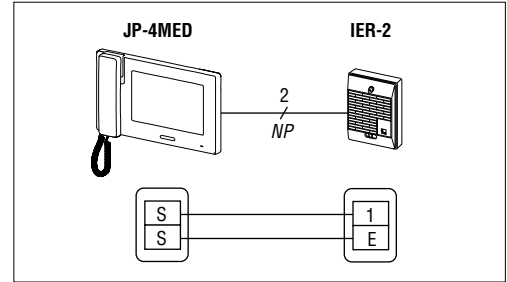
### Used for

IE series,  
TC-M  
JP-4MED, JO-1MD, JO-1FD,  
JK-1MD, JK-1MED, DB-1MD

### Unit dimensions



### Wiring



## Door release



**EL-12S**  
Electric door strike



**RY-PA**  
Door release relay

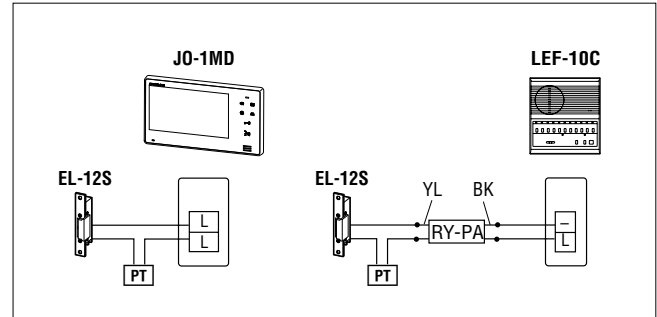
### Features

- Door release activation, momentary or talk line-controlled

### Used for

DA-1DS, C-123L/A  
DA-2DS, DA-4DS/G  
IE-1AD(U), IE-1GD(U)  
IE-2AD(U), IE-8MD(2)  
TD-H/B (via DE-UR)  
LEM-1DL  
LEF, LEF-C (via RY-PA)  
JP-4MED, JO-1MD  
JK-1MD, JK-1MED

### Wiring



BK : Black(2) YL : Yellow(2)

### Specifications (EL-12S)

Power source & Consumption 12V AC, 125mA  
12V DC, 200mA

### Specifications (RY-PA)

Power source 12V DC  
Relay contact rating 110V AC, 1A  
24V DC, 1A

## Relay



**RY-AC/A**  
External signaling relay

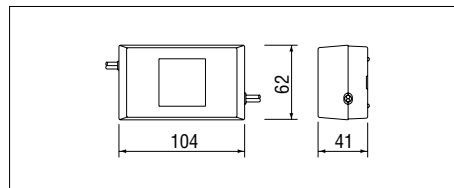
### Features

Intercom station can be signaled by external device via RY-AC/A relay. External device will be activated momentarily as long as the call signal on the intercom is activated.

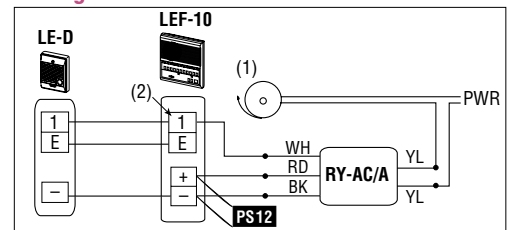
### Used for

TD-H/B  
IE-Series  
IE-8MD, LEF

### Unit dimensions



### Wiring



(1) External signaling device, bell, etc. (2) Call receive terminal WH : White RD : Red(+) BK : Black(-) YL : Yellow PWR : Power source

### Specifications (RY-AC/A)

Power source 12V DC, supplied by power supply of system or trunk line.  
Contact rating 0.3A, 240V AC 1.0A, 24V DC  
Bell, buzzer, etc. must be AC operated or DC mechanical type only.



## Relay



**TAR-3**  
External signaling relay

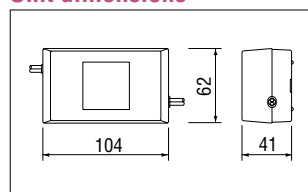
### Features

Allows integration of a doorbell, etc. to intercom. The device will be activated as long as handset is ringing. When the intercom is picked up, the device will no longer be activated.

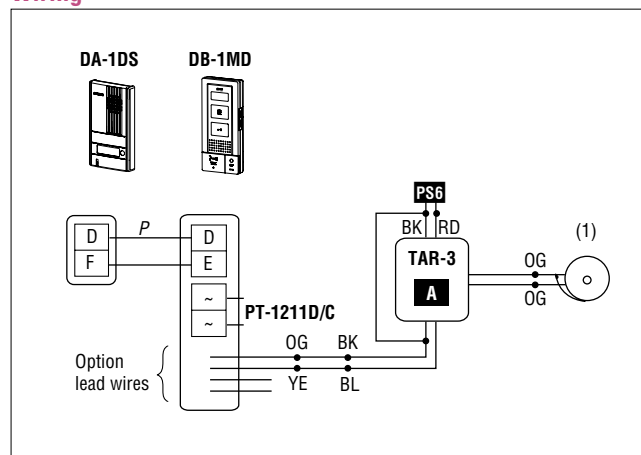
### Used for

IE chime tone  
IE-8MD  
AT-406  
TB-SE(TC-M)  
DB-1MD

### Unit dimensions



### Wiring



(1) Bell, etc. PWR : Power source

WH : White BL : Blue BK : Black(-) RD : Red(+) OG : Orange

PS6 : PS-0602D, PS-0602C

### Specifications (TAR-3)

Power source	6V DC, supplied by PS-0602D, PS-0602C
Contact rating	0.3A, 240V AC 1.0A, 24V DC
	Doorbell or buzzer must be AC operated or DC mechanical type only.

# Power Supplies

## 15V AC

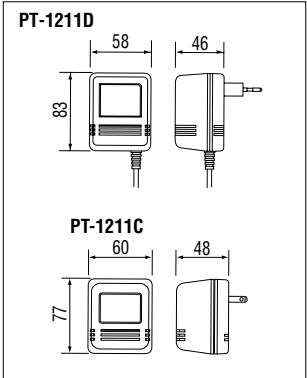


PT-1211D



PT-1211C

### Unit dimensions



**Used for**  
DA-1MD, DB-1MD

### Specifications (PT-1211D)

Input voltage & Capacity	230V AC, 50/60Hz
Output voltage	15V AC
*Manufactured by Sino-American	

### Specifications (PT-1211C)

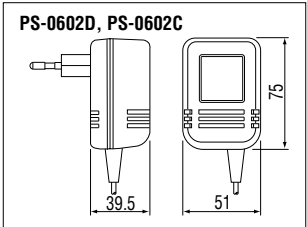
Input voltage & Capacity	120V AC, 50/60Hz
Output voltage	15V AC
*Manufactured by Sino-American	

## 6V DC



PS-0602D  
PS-0602C

### Unit dimensions



**Used for**  
C-123L/A, AT-406, LEM, TAR-3

### Specifications (PS-0602C)

Input voltage & Capacity	120V AC, 50/60Hz
Output voltage	6V DC, 0.2A

### Specifications (PS-0602D)

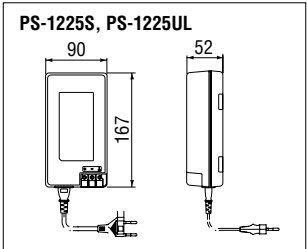
Input voltage & Capacity	230V AC, 50/60Hz.
Output voltage	6V DC, 0.2A
*Manufactured by Sino-American	

## 12V DC



PS-1225S  
PS-1225UL

### Unit dimensions



**Used for**  
IE-1AD(U), IE-1GD(U), IE-2AD(U),  
IE-2A2DU, IE-8MD, LEM-1DL, LEF,  
LEF-C, TD-H/B, MP-S, TB-AD10 (TC-M)

### Specifications (PS-1225S, PS-1225UL)

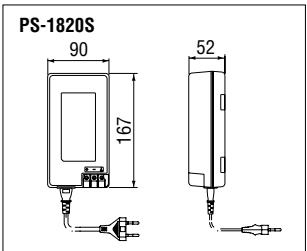
Input voltage & Capacity	100-240V AC, 50/60Hz 37W/65-82VA
Output voltage	12V DC, 2.5A

## 18V DC



PS-1820S  
PS-1820UL

### Unit dimensions



**Used for**  
IE-8MD, JBW-BA, JO-1MD, JO-1FD, JK-1MD, JK-1MED  
TC-M, RY-3DL

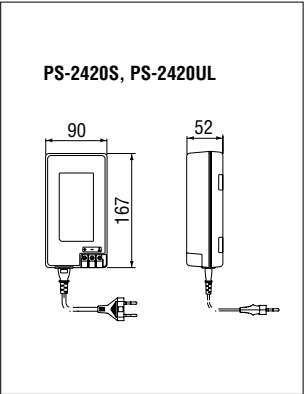
### Specifications (PS-1820S, PS-1820UL)

Input voltage & Capacity	100V-240V AC, 50/60Hz, 45W/75-95VA
Output voltage	18V DC, 2A

24V DC



Unit dimensions



Used for

YAZ-90-3W, JP-4MED, JP-4HD, JPW-BA, JP-8Z, RY-3DL, MU-100

Specifications (PS-2420S, PS-2420UL)

Input voltage & Capacity	100-240V AC, 50/60Hz 60W/100-125VA
Output voltage	24V DC, 2A

AIPHONE Approved product wire



AIPHONE Wire model name

Model	Length	Gauge	Insulation	Jacket color	Description	Recommendation
AE7090220B	200m	ø0.9mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	GT
AE7090220G	200m	ø0.9mm	PE	GRAY	2 conductor, PE, solid, non-shielded	GT
AE7090210B	100m	ø0.9mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	JK, JO, GT
AE7090210G	100m	ø0.9mm	PE	GRAY	2 conductor, PE, solid, non-shielded	JK, JO, GT
AE7120230B	300m	ø1.2mm	PE	BEIGE	2 conductor, PE, solid, non-shielded	JKW-BA, JPW-BA

Wire number coding

1st & 2nd Characters	: Wire Approval	<b>AE</b> =Aiphone approved wire
3rd digit	: Type of Wire	<b>7</b> =solid, PE, non-shielded
4th & 5th digits	: Gauge	<b>09</b> =0.9mm diameter, <b>12</b> =1.2mm diameter
6th & 7th digits	: Number of Conductors	<b>02</b> =2 conductors
8th & 9th digits	: Length of Wire	<b>10</b> =100 meters box, <b>20</b> =200 meters box, <b>30</b> =300 meters box
10th Character	: Color of Jacket	<b>G</b> =Gray, <b>B</b> =Beige



Cable printing

Model	Printing
AE7090220B	AIPHONE P/N AE7090220B 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090220G	AIPHONE P/N AE7090220G 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090210B	AIPHONE P/N AE7090210B 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7090210G	AIPHONE P/N AE7090210G 0.9-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE
AE7120230B	AIPHONE P/N AE7120230B 1.2-2C MADE IN JAPAN YYYY ROHS <LFV> AIPHONE

YYYY: Year of Production <LFV>: Lead free vinyl

USING AIPHONE WIRE EXTENDS YOUR AIPHONE VIDEO PRODUCT WARRANTY BY ONE YEAR.

# Communication Distance

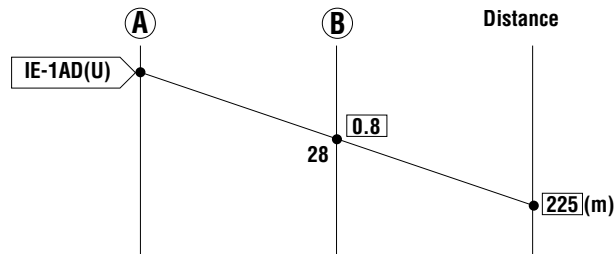
The below graph is to assist you in determining the diameter of wires or communication distance required.

**Example;**

To obtain the communication distance for IE-1AD(U) system using 0.8 mm dia. wires;

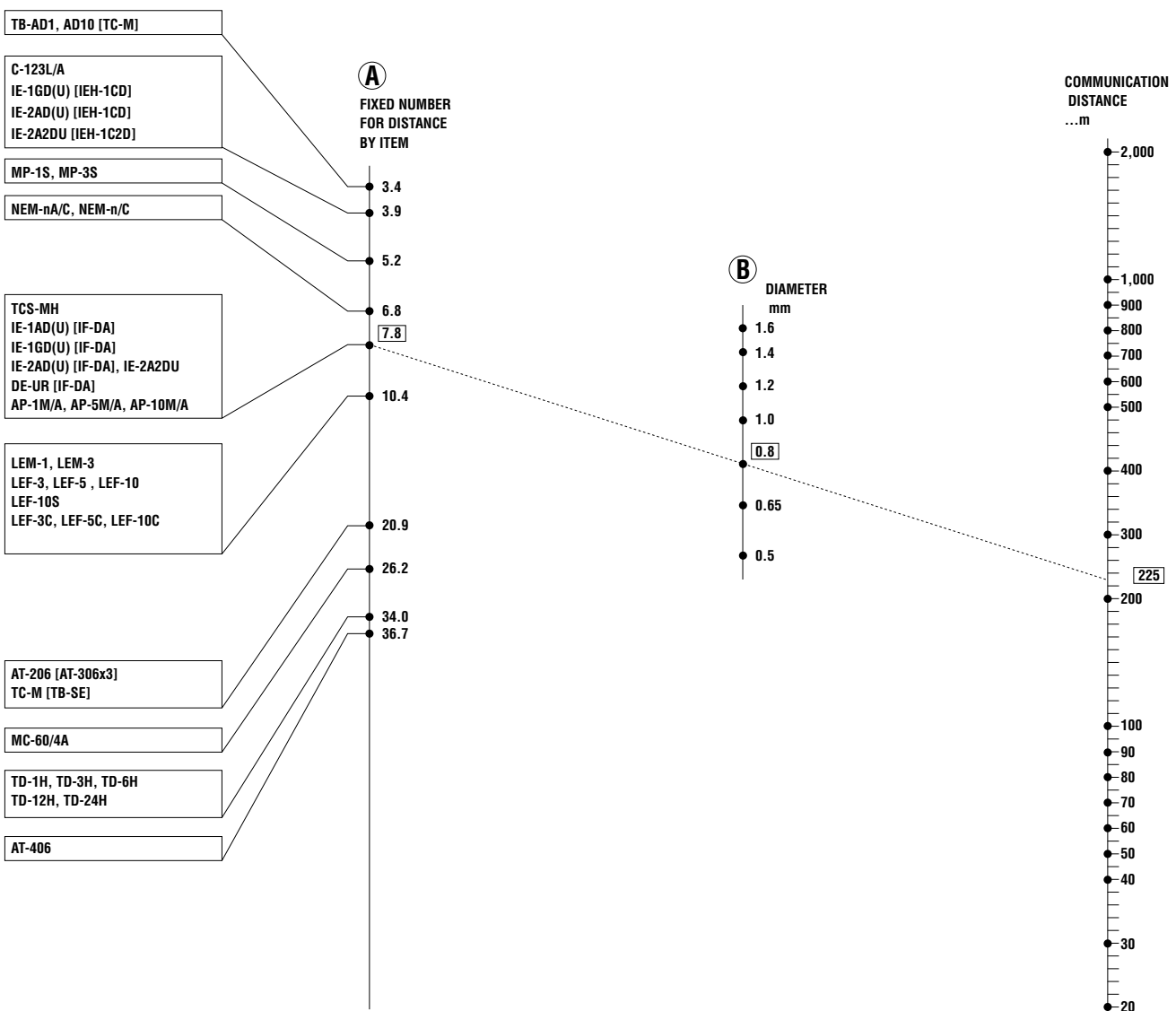
**1. On the graph;**

Draw a line from IE-1AD(U) on point A 7.8, crossing the line B at the point 0.8 to reach a point reading 225.



## COMMUNICATION DISTANCE CALCULATION GRAPH

### SYSTEM & MODELS



**NOTES;**

IE-1AD(U) (IF-DA) shows distance between IE-1AD(U) and IF-DA or other IE door station.

★Video Intercoms are not included in the graph.

# Compatibility of video intercom system

**Color video intercom** ✓: Compatible Blank: Not Compatible

<div>Door station</div> <div>Sub station</div> <div>Master station</div>	Existing model										
	Video door station				Audio door station	Sub master station				Long distance adaptor	
	JP-DA JP-DV JP-DVF JP-DVF-L	JO-DA JO-DV JO-DVF	JK-DA JK-DV JK-DVF	AX-DV AX-DV-P AX-DVF AX-DVF-P	GT-D	JO-1FD	JP-4HD	JK-1HD	JK-1SD (audio)	JPW-BA	JKW-BA
JO-1MD		✓				✓					
JP-4MED	✓				✓		✓			✓	
JK-1MD			✓					✓	✓		✓
JK-1MED			✓					✓	✓		✓
AX-8MV				✓							

AX-8MV requires a central exchange unit.



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